

From arc5 at ix.netcom.com Mon Dec 2 05:55:35 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 2 Dec 2013 04:55:35 -0600
Subject: [BoatAnchors] Another Morning Giggle
Message-ID: <75297F4654E84AFE805B78E3D95DD961@CompaqSR5710F>

Everyone can use a chuckle in the morning.

Ever wonder what kind of brain damage it takes to be
a complete, committed "audiophool?"
Listen to "Mr. Buddha" construct his delusional justification
for his gazillion-dollar audio system.

http://www.youtube.com/watch?feature=player_embedded&v=PMpMHxTboVw

From talgarth at comcast.net Sun Dec 1 17:00:13 2013
From: talgarth at comcast.net (Gary Hitchner)
Date: Sun, 1 Dec 2013 17:00:13 -0500
Subject: [BoatAnchors] QEX back issues for sale
Message-ID: <001b01ceeee0\$b67a33b0\$236e9b10\$@net>

I have back issues of QEX (ARRL) available for a list member. 1st- I am asking \$30.00 + shipping for the lot. These should be able to go media mail, but will do 2 boxes to make things easier to handle. The weight is about 40 lbs total, send me your zip for shipping costs. These are not exactly boatanchor material, but still history that may be of interest. It is interesting to see how technology changed over the time period.

Here is what is available, the number of issues / year is listed rather than individual months. Starting around 2000, not sure exactly, they went to 6 issues / year. Most of these are in very good to excellent condition. The 92 and 93 issues are in a binder and have been 3 hole punched.

81- 1- (1st issue)

82 10

83- 1

85 6

86	10
87	12
88	11
89	11
90	12
91	12
92	11
93	11
94	3
2000	5
2001	3
2002	6
2003	6
2004	6
2005	5

Gary

WA20MY

From wb0eq at yahoo.com Mon Dec 2 14:41:31 2013
From: wb0eq at yahoo.com (John Sehring)
Date: Mon, 2 Dec 2013 11:41:31 -0800 (PST)
Subject: [BoatAnchors] Oddball circuit happenings

Message-ID: <1386013291.93716.YahooMailNeo@web161002.mail.bf1.yahoo.com>

http://www.hparchive.com/Bench_Briefs/HP-Bench-Briefs-1983-01-02.pdf

This HP bulletin shows some very unusual physical happenings in various electronic circuits.??

--John Sehring ?VE6EQR-WB0EQ??nr Calgary, Alberta, Canada

From gumbear at pacbell.net Mon Dec 2 16:06:48 2013

From: gumbear at pacbell.net (Arden Allen)

Date: Mon, 2 Dec 2013 13:06:48 -0800

Subject: [BoatAnchors] Oddball circuit happenings

References: <1386013291.93716.YahooMailNeo@web161002.mail.bf1.yahoo.com>

Message-ID: <000f01ceefa2\$7543a170\$4301a8c0@KB6NAX>

> This HP bulletin shows some very unusual physical happenings in various electronic circuits.

http://www.hparchive.com/Bench_Briefs/HP-Bench-Briefs-1983-01-02.pdf

John, that HP bulletin is a trove of good information, particularly the discussion of circuit board cleaning and protection. I had not known about the coaxial delay line degradation problem but then I've only worked on a couple of HP scopes over the years. Interestingly enough, I've seen coax cable with greenish shielding. Didn't look right so I trashed it.

Arden Allen

KB6NAX

Properly trained a man can be
dog's best friend. -Corey Ford

From kd5byb at kd5byb.net Mon Dec 2 17:04:50 2013

From: kd5byb at kd5byb.net (Ben Hall)

Date: Mon, 02 Dec 2013 16:04:50 -0600

Subject: [BoatAnchors] Oddball circuit happenings

In-Reply-To: <000f01ceefa2\$7543a170\$4301a8c0@KB6NAX>

References: <1386013291.93716.YahooMailNeo@web161002.mail.bf1.yahoo.com>

<000f01ceefa2\$7543a170\$4301a8c0@KB6NAX>

Message-ID: <529D0402.1050209@kd5byb.net>

That was some good reading. I once took some PC boards I'd designed and assembled into work. The EE's found it fascinating that one of the mechanical engineers (me) had the ability to design and build circuit

boards, and the techs found it fascinating that an engineer could actually use a soldering iron somewhat competently.

One of the techs, a former QA inspector, critiqued my work under one of the microscopes. The majority of my joints were good, but she gave me a lot of grief because I did not de-flux the boards after I had assembled them. We got into a discussion of the long-term effects of not de-fluxing assembled PC-boards. That discussion paralleled the HP article pretty closely - me taking the side that cleaning was not needed (like HP suggested) and with her taking the side that the flux could cause corrosion and board deterioration down the road.

I now de-flux boards that I intend to keep around for a long time and even have done some "poor-boy" conformal coating (clear acrylic spray paint) on stuff that may get wet.

On 12/2/2013 3:06 PM, Arden Allen wrote:

> couple of HP scopes over the years. Interestingly enough, I've seen coax
> cable with greenish shielding. Didn't look right so I trashed it.

I've seen this too. Can't remember where...but the outer jacket of the coax was clear so you could clearly see the green corroded shield braid underneath. Yeech. I replaced it.

Speaking of odd things happening to components over time... Many years ago I bought a spool of zip-cord speaker wire - the type where the jacket is clear so you can see the wire conductors inside. I used it to make many different patch cords - some were low-voltage DC power, some we actually for speakers, some for audio. It was cheap and worked well for all of these applications.

Over time, on all of the cords I made, the ends would ooze this clear-green viscous liquid. It wouldn't corrode the connection, but the green goo was definitely unsightly, was difficult to remove, and collected dust.

I think I finally determined that isopropyl alcohol would remove it, only for it to show up again later. So over time I replaced all of it over time.

Interestingly, when I replace power cords on BA gear with three-prong grounding plugs, I usually see if I can't re-use the inner conductors.

Often, while the outer jacket will be cracked, the insulation on the inner conductors is in very good shape. (None of it gets used in HV, AC-line, or any "mission-critical" application.)

Can't say I've ever seen anything like the green goo on any of these

older power cords.

thanks much and 73,
ben, kd5byb

From arc5 at ix.netcom.com Tue Dec 3 01:41:47 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Tue, 3 Dec 2013 00:41:47 -0600
Subject: [BoatAnchors] Smart People: Gassy Tubes Reversible?
Message-ID: <23F41654AEAB49A0A06B91D2EF358F44@CompaqSR5710F>

Some otherwise valuable tubes have taken-in variable amounts of gas over the decades.
NOS transmitting tubes like the 211 are often gassy out of the box and cannot be readily "de-gassed" like some large Eimacs.
Even some NOS 1625 and 807 are starting to show signs of gas.

Question: If a batch of such tubes were put into a large vacuum chamber, pumped-down hard and left there for an extended time- even a year or more- would the gas in those tubes migrate back out?

From gumbear at pacbell.net Tue Dec 3 04:21:48 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 3 Dec 2013 01:21:48 -0800
Subject: [BoatAnchors] Oddball circuit happenings
References: <1386013291.93716.YahooMailNeo@web161002.mail.bf1.yahoo.com>
<000f01ceefa2\$7543a170\$4301a8c0@KB6NAX> <529D0402.1050209@kd5byb.net>
Message-ID: <001901cef009\$206b7c10\$4301a8c0@KB6NAX>

>One of the techs, a former QA inspector, critiqued my work under one of the microscopes. The majority of my joints were good, but she gave me a lot of grief because I did not de-flux the boards after I had assembled them. We got into a discussion of the long-term effects of not de-fluxing assembled PC-boards. That discussion paralleled the HP article pretty closely - me taking the side that cleaning was not needed (like HP suggested) and with her taking the side that the flux could cause corrosion and board deterioration down the road.

The truth be told, Ben, the HP note overstepped an important part of the flux issue while being basically correct. Having serviced consumer

electronic for so long now, I can't remember which came first, the wheel or electric lights, cheap electronic products are never defused. It's just not in the economics. Besides most consumer electronics lives out its life in the benign environment of a home where the rain is kept out and the temperature is maintained in a narrow range. The secret to getting away with non flux removing methods is to not use a flux that contains no corrosive salt. Newly made components are nearly devoid of oxide coatings and non activated "R" flux works just fine. The way rosin flux by itself acts to overcome surface tension and keep oxygen at bay is something of a miracle, which I'll leave to the chemists to explain. When rosin is heated to combustion temperature that which does not oxidize loses its volatiles and cooling locks up activation salts, if present, in a moisture resistant molding. And so the cheapy stuff lives on well beyond its designed end of life with nary a bit of corrosion.

With high grade industrial and military electronics cleanliness is next to Godliness. Electronics has to be hermetically sealed to keep the effects of environmental abuse from being the cause of down time. Think about that next time you see that dodgy health and safety clone.

Arden Allen
KB6NAX

I love a dog. He does nothing for political reasons.
-Will Rogers

From wb0eq at yahoo.com Tue Dec 3 17:30:06 2013
From: wb0eq at yahoo.com (John Sehring)
Date: Tue, 3 Dec 2013 14:30:06 -0800 (PST)
Subject: [BoatAnchors] Scrubbing Bubbles
Message-ID: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>

Folks,

I'm getting more than a little buggy over on the Yahoo Drake radio group.? They insist on putting radios in dish washers and cleaning them with corrosive cleaners.? I strongly disagree with this!? Below is a note I'm thinking about about sending to that list.

I don't want be annoyed by it, I want them to stop it.

What think you?

=====

How far is this radio over-cleaning nonsense going to go??? We are not dealing with shinyvauto hood ornaments you know.?

If I were a psychologist I'd label this behavior as "anal" retentive and Obsessive Compulsive Disorder.

None of our ham radio equipment was design for submarine service!

Water

and various types of "cleaners" will wind up everywhere, e.g. under screw heads and nuts, and inside IF transformer cans? just to name a few.? And there's no way to get the stuff out.? Yes, you might be able to dry the water out but not the chemicals.? They dry up to some extent but stay corrosive indefinitely.

Over on the Boat Anchors list, we deal sometimes with radios much older than the Drakes.? Moisture and corrosive chemicals do terrible things to certain electronic equipment, sometimes almost unfixable without major, risky surgery.

The mischief that's done by cleaning chemicals may not show up for years.

It

will NOT be reversible.? A whole generation of precious boat anchors will be condemned by this treatment to the worst sorts of intermittent electrical problems in future.

When a car is flooded above its floorboards it is declared as "junk" & off to the scrap yards it goes.

Finis.

=====

?

--John Sehring ?VE6EQR-WB0EQ??nr Calgary, Alberta, Canada

From mike at oldaudio.net Thu Dec 5 10:51:17 2013

From: mike at oldaudio.net (Mike Durff)

Date: Thu, 5 Dec 2013 07:51:17 -0800 (PST)

Subject: [BoatAnchors] WTB: Bendix N284113-1 filament transformer

Message-ID: <1386258677.59064.YahooMailNeo@web5702.biz.mail.ne1.yahoo.com>

Hello all:?

I am looking for a ??Bendix N284113-1 filament transformer. It is a heavy oil-filled xfmr with an insulated Johnson ?4 pin 211-XXX, type socket mounted on top of the porcelain insulator.

It fits the jumbo 4 pin tubes i.e. 211 , 250TH, etc? 5 / 2.5VAC, 10A secondary with 110VAC primary. If anyone has one of these they can part with, please let me know. I purchased one on ebay a while back, and need a second one. (you can see it at ebay listing?121196496417?) ???

Thanks? reply off list to: mikedurff at yahoo.com

From W6cds at aol.com Fri Dec 6 13:08:03 2013
From: W6cds at aol.com (W6cds at aol.com)
Date: Fri, 6 Dec 2013 13:08:03 -0500 (EST)
Subject: [BoatAnchors] GREAT video on amateur radio
Message-ID: <52849.5d010502.3fd36c82@aol.com>

Subj: GREAT video on amateur radio

Click here: ? Amateur Radio - YouTube
(<http://www.youtube.com/watch?v=ivUMIADFSDw&feature=youtu.be>)

Enjoy,

73 - Charles - W6CDS

From wwatson5 at sbcglobal.net Fri Dec 6 13:31:33 2013
From: wwatson5 at sbcglobal.net (William Watson)
Date: Fri, 6 Dec 2013 10:31:33 -0800 (PST)
Subject: [BoatAnchors] Looking for 2 KWM2 Crystals
Message-ID: <1386354693.19874.YahooMailNeo@web181402.mail.ne1.yahoo.com>

I am looking for two KWM2 crystals:
6555.0?? (for 3.4 to 3.6 MHz)
8677.5 (for 14.2 to 14.4 MHz)
I have the following 7?extras from a crystal pack:
7355.0? (for 4.2 to 4.4 MHz)
10577.5 (for 18.0 to 18.2 MHz)
11555.0 (for 8.4 to 8.6 MHz)
12555.0 (for 9.4 to 9.6 MHz)? I have 2 of these
10077.5 (for 17.0 to 17.2 MHz)
15477.5 (for 27.8 to 28.0 MHz)
I would gladly trade my 7 extras for the 2 I need.

Thanks.
Joe
W5WBR

From spr at earthlink.net Sat Dec 7 11:29:48 2013
From: spr at earthlink.net (Scott Robinson)
Date: Sat, 07 Dec 2013 08:29:48 -0800
Subject: [BoatAnchors] Scrubbing Bubbles
In-Reply-To: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
Message-ID: <52A34CFC.4070609@earthlink.net>

Hi John,

I ABSOLUTELY agree with you! Later today I'll try to post a description of an experiment that proved this conclusively. Besides, the copper plated Drake chassis corrode without any external help!

Regards,

Scott

On 12/3/13 2:30 PM, John Sehring wrote:

> Folks,
>
>
> I'm getting more than a little buggy over on the Yahoo Drake radio group. They insist on putting radios in dish washers and cleaning them with corrosive cleaners. I strongly disagree with this! Below is a note I'm thinking about about sending to that list.
>
> I don't want be annoyed by it, I want them to stop it.
>
> What think you?
>
>
> =====
>
> How far is this radio over-cleaning nonsense going to go?? We are not dealing with shinyvauto hood ornaments you know.
>
> If I were a psychologist I'd label this behavior as "anal" retentive and Obsessive Compulsive Disorder.
>
> None of our ham radio equipment was design for submarine service!
>
> Water

> and various types of "cleaners" will wind up everywhere, e.g. under
> screw heads and nuts, and inside IF transformer cans just to name a
> few. And there's no way to get the stuff out. Yes, you might be able
> to dry the water out but not the chemicals. They dry up to some extent
> but stay corrosive indefinitely.
> Over on the Boat Anchors list, we deal sometimes with radios much older than the
Drakes. Moisture and corrosive chemicals do terrible things to
> certain electronic equipment, sometimes almost unfixable without major,
> risky surgery.
>
> The mischief that's done by cleaning chemicals may not show up for years.
>
> It
> will NOT be reversible. A whole generation of precious boat anchors
> will be condemned by this treatment to the worst sorts of intermittent
> electrical problems in future.
>
> When a car is flooded above its floorboards it is declared as "junk" & off to
the scrap yards it goes.
>
> Finis.
> =====
>
>
>
>
> --John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>
>

From mike at oldaudio.net Sat Dec 7 12:05:21 2013
From: mike at oldaudio.net (Mike Durff)
Date: Sat, 7 Dec 2013 09:05:21 -0800 (PST)
Subject: [BoatAnchors] scrubbing bubbles
Message-ID: <1386435921.73491.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>

John:?

I have been pondering radio cleaning for about a year now. Nothing seems to work
as a panacea. One suggestion I got was "?just strip the chassis and have it
sandblasted?"?

While I'm not about to strip a chassis of all components, that statement did get
me to thinking.?

I poked around the internet and indeed there is a process called soda blasting
using common baking soda as the media. Even Harbor Freight and the like (Ebay,
etc?) sell these rigs for under \$100. ?Small metal containers similar to a hand

pump garden sprayer or small fire extinguisher. You can buy the soda in 25 LB bags . All you need is an air compressor.?
Sounds like a non invasive, non corrosive ?way to remove dirt, light rust & even paint, depending on the nozzle & amount of air pressure used.?

If anyone has used this method please let us know your results.

TNX, Mike

From ranickel at comcast.net Sat Dec 7 12:13:31 2013
From: ranickel at comcast.net (Robert Nickels)
Date: Sat, 07 Dec 2013 11:13:31 -0600
Subject: [BoatAnchors] Scrubbing Bubbles
In-Reply-To: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
Message-ID: <52A3573B.7060308@comcast.net>

Some time ago - 10 years or more - I remember reading a very interesting article on this very topic. The author used electrical cover plates as his "test media" and exposed each steel plate to various cleaners and rinses and then summarized the results after aging them for a period of months. Problem is, I can't remember where it was or find the article. I thought it was in Antique Radio Classisfied but even the publisher didn't remember it. Does anyone?

73, Bob W9RAN

From a.b.bonds at Vanderbilt.Edu Sat Dec 7 12:59:23 2013
From: a.b.bonds at Vanderbilt.Edu (Bonds, A B)
Date: Sat, 7 Dec 2013 17:59:23 +0000
Subject: [BoatAnchors] scrubbing bubbles
In-Reply-To: <1386435921.73491.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>
References: <1386435921.73491.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>
Message-ID: <C8FFB7BC5D48064D8BF9AD0086503DF9166164A1@ITS-HCWNE103.ds.vanderbilt.edu>

I have used soda blasting a lot for cleaning parts for car restoration. It is a very useful and reasonably economical tool for gentle removal of grunge and for surface prep. HOWEVER: The soda, even in small quantities, is VERY corrosive to yellow metals if not removed promptly (as my brass Buick found out to its grave disappointment). If you are going to clean electronic equipment with this method, you MUST remove all traces of the soda by washing (oops, isn't that what we are trying to avoid?)

A. B. Bonds

If anyone has used this method please let us know your results.

TNX, Mike

From anchor at ec.rr.com Mon Dec 2 21:32:10 2013
From: anchor at ec.rr.com (Al Parker)
Date: Mon, 02 Dec 2013 21:32:10 -0500
Subject: [BoatAnchors] R-388 F.S. \$425 with cabinet , \$375 w/o cab.
Message-ID: <529D42AA.1060203@ec.rr.com>

Hi folks,

I have a good R-388 available to a new owner. I have been into it, not a full refurbish, but have replaced all that needed it (incl. the MC drum paper), put in a (easily reversible) fast attack slow release AVC mod, and fixed the AVC/bias voltage which usually gets to be a problem with our 125vac lines; it's now quite sensitive. The PTO is off abt 5kc end to end, I don't think any 2 adjacent 100kc points are more than 1/2kc off. It's a good user with no further work needed.

The handles were removed by a prev. owner, I put plastic hole plugs in the holes in the panel. Less evident than gaping holes. Perhaps the same DPO used a magic marker to label lots of alignment points on the chassis, I have not tried to remove them.

I have put the pix and schematic with my red-marked changes (most, at least) on a webpage for your perusal, <<http://www.boatanchors.org/R-388/>>

Prices as noted in the subject line, plus shipping from zip 28560. I ask an addtl \$15 for buying sufficient rigid foam for proper packing, which I will do at no charge. The cabinet is not available separately. thanks for looking, 73,

Al, W8UT

New Bern, NC

www.boatanchors.org

www.hammarlund.info

"There is nothing -- absolutely nothing -- half so much worth doing as simply messing about in boats"
Ratty, to Mole

From anchor at ec.rr.com Sat Dec 7 13:13:14 2013
From: anchor at ec.rr.com (Al Parker)
Date: Sat, 07 Dec 2013 13:13:14 -0500
Subject: [BoatAnchors] scrubbing bubbles
In-Reply-To: <1386435921.73491.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>
References: <1386435921.73491.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>
Message-ID: <52A3653A.9010002@ec.rr.com>

Hi Mike, et al,

"blasting" with whatever is not "non-invasive", it gets whatever media is used, into any crevasse and will not get rinsed, blown, etc., out totally. Baking soda is a salt, NaHCO_3 , a chemical used for cleaning, and when wet/damp, will corrode metals, etc. I suspect it's used for blast cleaning because it is much less abrasive than sand, shot, nut shells, etc.

Take a look via google at baking soda to see what it's used for and what it can do to aluminum, etc.

I've heard John B's method of cleaning, using Q-tips, finger pressure, care, and learning while doing, and agree with it. I've done it. I've also occasionally used Scrubbing Bubbles very carefully (ducking and running here), and IIRC our esteemed Barry Ornitz, some 10-12 yrs ago, endorsed its use, and may have said it is "non-ionic", or non-ionizing, which must be good. I usually use nothing more aggressive than plain water and hand friendly soap, well rinse with distilled water.

John S, what method of cleaning do you suggest?

73.

Al, W8UT

www.boatanchors.org

www.hammarlund.info

"There is nothing -- absolutely nothing -- half so much worth doing as simply messing about in boats"

Ratty, to Mole

On 12/7/2013 12:05 PM, Mike Durff wrote:

process called soda blasting

From johnmb at nc.rr.com Sat Dec 7 12:23:29 2013

From: johnmb at nc.rr.com (john)

Date: Sat, 07 Dec 2013 12:23:29 -0500

Subject: [BoatAnchors] Scrubbing Bubbles

In-Reply-To: <52A34CFC.4070609@earthlink.net>

References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>

<52A34CFC.4070609@earthlink.net>

Message-ID: <6.2.1.2.2.20131207122002.031a4eb0@pop-server.nc.rr.com>

Agree entirely.

I think if you're in such a hurry that you can't spend a couple hours cleaning a radio by hand, you might be in the wrong hobby. I'm pretty sure it's faster (and certainly safer) doing it by hand, than all the gyrations it takes to dump one in the dishwasher.

I'm convinced more radios have been destroyed by "restoring" than by neglect.

Ebenezer John K5MO

At 11:29 AM 12/7/2013, Scott Robinson wrote:

>Hi John,

>

>I ABSOLUTELY agree with you! Later today I'll try to post a description of
>an experiment that proved this conclusively. Besides, the copper plated
>Drake chassis corrode without any external help!

>

>Regards,

>

>Scott

>

>On 12/3/13 2:30 PM, John Sehring wrote:

>>Folks,

>>

>>

>>I'm getting more than a little buggy over on the Yahoo Drake radio group.

(Jack snip applied here...)

This email is free from viruses and malware because avast! Antivirus protection is active.

<http://www.avast.com>

From johnmb at nc.rr.com Sat Dec 7 12:33:14 2013

From: johnmb at nc.rr.com (john)

Date: Sat, 07 Dec 2013 12:33:14 -0500

Subject: [BoatAnchors] Scrubbing Bubbles

In-Reply-To: <52A3573B.7060308@comcast.net>

References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
<52A3573B.7060308@comcast.net>

Message-ID: <6.2.1.2.2.20131207123240.03e8e2d0@pop-server.nc.rr.com>

We'll see what kind of sense of humor Gerry has. :)

John K5MO

This email is free from viruses and malware because avast! Antivirus protection is active.

<http://www.avast.com>

From k4oah at mindspring.com Sat Dec 7 11:53:01 2013

From: k4oah at mindspring.com (Garey Barrell)

Date: Sat, 07 Dec 2013 11:53:01 -0500

Subject: [BoatAnchors] Scrubbing Bubbles

In-Reply-To: <52A34CFC.4070609@earthlink.net>

References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>

<52A34CFC.4070609@earthlink.net>

Message-ID: <52A3526D.2050609@mindspring.com>

John -

I absolutely agree as well!! Unfortunately, there are those who are enamored of the 'ease' of this, and I doubt you will be able to convert, (or even dissuade,) them.

I certainly agree with your message, and all you can do is educate. If you decide to post, I will certainly agree, (I believe I have before,) but please don't let it discourage you when some insist on using the method.....

73, Garey - K40AH
Glen Allen, VA

Drake 2-B, 2-C/2-NT, 4-A, 4-B, C-Line
and TR-4/C Service Supplement CDs
<www.k4oah.com>

Scott Robinson wrote:

> Hi John,

>

> I ABSOLUTELY agree with you! Later today I'll try to post a description of an experiment that proved this

> conclusively. Besides, the copper plated Drake chassis corrode without any external help!

>

> Regards,

>

> Scott
>
> On 12/3/13 2:30 PM, John Sehring wrote:
>> Folks,
>>
>>
>> I'm getting more than a little buggy over on the Yahoo Drake radio group. They
insist on putting radios in dish
>> washers and cleaning them with corrosive cleaners. I strongly disagree with
this! Below is a note I'm thinking
>> about about sending to that list.
>>
>> I don't want be annoyed by it, I want them to stop it.
>>
>> What think you?
>>
>>
>> =====
>>
>> How far is this radio over-cleaning nonsense going to go?? We are not dealing
with shinyvauto hood ornaments you know.
>>
>> If I were a psychologist I'd label this behavior as "anal" retentive and
Obsessive Compulsive Disorder.
>>
>> None of our ham radio equipment was design for submarine service!
>>
>> Water
>> and various types of "cleaners" will wind up everywhere, e.g. under
>> screw heads and nuts, and inside IF transformer cans just to name a
>> few. And there's no way to get the stuff out. Yes, you might be able
>> to dry the water out but not the chemicals. They dry up to some extent
>> but stay corrosive indefinitely.
>> Over on the Boat Anchors list, we deal sometimes with radios much older than
the Drakes. Moisture and corrosive
>> chemicals do terrible things to
>> certain electronic equipment, sometimes almost unfixable without major,
>> risky surgery.
>>
>> The mischief that's done by cleaning chemicals may not show up for years.
>>
>> It
>> will NOT be reversible. A whole generation of precious boat anchors
>> will be condemned by this treatment to the worst sorts of intermittent
>> electrical problems in future.
>>
>> When a car is flooded above its floorboards it is declared as "junk" & off to
the scrap yards it goes.

>>
>> Finis.
>> =====
>>
>>
>>
>> --John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

From WA1KBQ at aol.com Sat Dec 7 17:18:00 2013
From: WA1KBQ at aol.com (WA1KBQ at aol.com)
Date: Sat, 7 Dec 2013 17:18:00 -0500 (EST)
Subject: [BoatAnchors] Scrubbing Bubbles
Message-ID: <a35b3.3ce7ec5c.3fd4f898@aol.com>

I agree with you but your reply might open a can of worms. Trying to get someone to listen to you on how to clean a radio can be a lesson in futility like trying to get them to switch to your favorite brand of motor oil, or try your brand of car wax, etc. Other than causing us to cringe when we hear about it probably no real harm is done nor the historical record threatened by someone improperly cleaning a post-war radio including those from Drake. Most of this stuff is still abundant enough that none will be considered scarce for a very long time. I don't use a dishwasher nor recommend one

but the mechanical construction of some kinds of electronic equipment is better able to withstand a dishwasher than others. I believe we had someone comment here a few years ago who once worked for either a Motorola or Tektronix repair center (don't recall which) and he explained they routinely washed

equipment coming in for service in a similar way and force dried afterwards because it was quick, effective, and had no adverse effects. It seems no

two radios or the type cleaning required is ever exactly the same so it's difficult to recommend any one general procedure. The best general recommendation is probably to assess the degree of cleaning work that is needed and

choose the least invasive cleaning agents which will do the job. If unsure, start in an inconspicuous area or on a scrap part from another piece of equipment and test weak agents first and work your way up.

The Collins fellows like to use mostly Windex and cotton swabs but other types of very dirty equipment may require hand washing and a spray bottle rinse or possibly even more extensive washing with a brush outside under the hose. I always disassemble as far as is practical and cover certain parts to keep water out or otherwise protect any parts which may be damaged by water. Different types of plating finishes will often require different procedures so it might be beneficial to separate these parts when deciding how

far to disassemble. Afterwards I blow the parts dry and they go in the oven I installed for this purpose for several hours at 170F. Actually every part I wash, rinse and blow dry spends time further drying in the oven.

If there is a positive in making a recommendation it might be in attempting to guide someone inexperienced or not yet in the know by encouraging craftsmanship so they might enjoy the satisfaction of a job well done.

Regards, Greg

In a message dated 12/7/2013 11:12:02 A.M. Eastern Standard Time, wb0eq at yahoo.com writes:

Folks,

I'm getting more than a little buggy over on the Yahoo Drake radio group. They insist on putting radios in dish washers and cleaning them with corrosive cleaners. I strongly disagree with this! Below is a note I'm thinking about about sending to that list.

I don't want be annoyed by it, I want them to stop it.

What think you?

=====

How far is this radio over-cleaning nonsense going to go?? We are not dealing with shinyvauto hood ornaments you know.

If I were a psychologist I'd label this behavior as "anal" retentive and Obsessive Compulsive Disorder.

None of our ham radio equipment was design for submarine service!

Water

and various types of "cleaners" will wind up everywhere, e.g. under screw heads and nuts, and inside IF transformer cans just to name a few. And there's no way to get the stuff out. Yes, you might be able to dry the water out but not the chemicals. They dry up to some extent but stay corrosive indefinitely.

Over on the Boat Anchors list, we deal sometimes with radios much older than the Drakes. Moisture and corrosive chemicals do terrible things to certain electronic equipment, sometimes almost unfixable without major, risky surgery.

The mischief that's done by cleaning chemicals may not show up for years.

It
will NOT be reversible. A whole generation of precious boat anchors
will be condemned by this treatment to the worst sorts of intermittent
electrical problems in future.

When a car is flooded above its floorboards it is declared as "junk" & off
to the scrap yards it goes.

Finis.

=====

--John Sehring VE6EQR-WB0EQ nr Calgary, Alberta, Canada

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Sat Dec 7 19:44:44 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 7 Dec 2013 16:44:44 -0800
Subject: [BoatAnchors] Oddball circuit happenings
References: <1386013291.93716.YahooMailNeo@web161002.mail.bf1.yahoo.com>
<000f01ceefa2\$7543a170\$4301a8c0@KB6NAX> <529D0402.1050209@kd5byb.net>
<001901cef009\$206b7c10\$4301a8c0@KB6NAX>
<AE68D8A2-2C43-4E22-8757-41DDBC20A506@aol.com>
Message-ID: <005901cef3b3\$5d0f1c50\$4301a8c0@KB6NAX>

In a previous posting on this subject I made a typo that incorrectly states
what I meant to say:

>The secret to getting away
with non flux removing methods is to not use a flux that contains no
corrosive salt.

The correct statement should be,The secret to getting away
with non flux removing methods is to NOT use a flux that contains a
corrosive salt. ...

A rather clumsy a statement, I admit. To state it better way: Use a non
activated rosin core solder.

Sorry for the confusion I may have caused.

Arden Allen
KB6NAX

Adopt a shelter dog,
save an innocent life,
and make a friend forever =:-)

From gumbear at pacbell.net Sat Dec 7 20:17:57 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 7 Dec 2013 17:17:57 -0800
Subject: [BoatAnchors] Scrubbing Bubbles
References: <a35b3.3ce7ec5c.3fd4f898@aol.com>
Message-ID: <005a01cef3b3\$5d802da0\$4301a8c0@KB6NAX>

There was a notion set forth in this discussion that implies that moisture is the cause of the problems being alluded to regarding the washing of electronics. Stepping back let's stop to think a moment. Moisture is everywhere. This planet wouldn't have a spec of life without it and everywhere there is life there is moisture. Electronic equipment must live and perform in a moisture filled environment along with the two and four legged habitants, among others.

Pure water is an insulator. But because it is such a good solvent it hardly exists in a state free of ions from who knows where dissolved in it. The more the ions, the more the conductivity, i.e., the lower the resistivity.

Now, because moisture is everywhere, if electronic components lent ions to the ever present water molecules trouble would be the result. Electronic components, at least the successful ones, don't easily donate ions to a bad cause. The badness in the electronics realm is when ignorant and foolish humans add ions that put water to work causing things to go catastrophic.

OK, enough from the pulpit. Avoid using cleaners that "bind" ionic contaminants to electronic components that won't rinse away. While many cleaners do a great job of removing dirt from old radios and gym shoes not many of them avoid leaving behind those frightful corrosion instigators. Success is the child of theory and practice brought together. There's too much being said about practice but too little about theory. What the List needs is a list of acceptable cleaning agents for cleaning radios and electronics in general.

When we have some good information on reliable cleaning agents we can get back to the quibble over whether to use a dish washer, fire hose, dunk tank, squirt bottle, tooth brush, q-tips, etc., etc.

Arden Allen

KB6NAX

Blessed is the person who has earned the love of an old dog.
- Sydney Jeanne Seward

From 1oldlens1 at ix.netcom.com Sat Dec 7 18:54:02 2013
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 7 Dec 2013 15:54:02 -0800
Subject: [BoatAnchors] Scrubbing Bubbles
References: <a35b3.3ce7ec5c.3fd4f898@aol.com>
Message-ID: <7E49F6C3259E4677A49E5C6D34FF4FB4@VALUED20606295>

----- Original Message -----

From: <WA1KBQ at aol.com>
To: <wb0eq at yahoo.com>; <boatanchors at theporch.com>
Sent: Saturday, December 07, 2013 2:18 PM
Subject: Re: [BoatAnchors] Scrubbing Bubbles

I don't know what Motorola or Tektronix did but I do know what Hewlett-Packard did. I have described this a couple of times. We washed incoming equipment if it was dirty. The procedure was pretty simple. First anything that could be damaged by water was removed. That included meters and, in some cases transformers. Curiously, the transformers and chokes that had to be removed were those that were supposed to be hermetically sealed. The reason was that the seals were often not perfect so some moisture could get in. It had a hard time getting out again.

After removing the appropriate parts the procedure was:

- 1, Blow out loose dust and dirt using dry compressed air.
- 2, Rinse thoroughly with warm water from a plain hose.
- 3, Wash using a solution of diswashing detergent sprayed on using a paint spray gun. A brush could be used to help this along.
- 4, After washing rinse again with warm water and maybe also the brush.
- 5, Blow out as much water as possible with compressed air.
- 6, Bake in an electric oven at about 130F for at least 48 hours, preferably longer if the oven was available.

Re-assemble. Some small parts might be cleaned by hand.

Cabinets were repainted if need be.

After cleaning whatever repair and recalibration needed was done.

The idea was that equipment sent to us should be returned looking as nearly new as possible and working to better than

new specs.

Of course, we had any parts needed at hand.

Full washing was done mostly to older instruments, mostly it was not needed for warranty service instruments.

I certainly agree that cleaning or washing methods must be decided on the basis of the individual device. Some items can be seriously damaged by the wrong kind of cleaning.

Unless dishwashing machines are quite different from the ones I've had experience with they subject the items washed to far too much heat. After all they are supposed to disinfect the dishes as well as wash them. I also think sometimes one must be satisfied with incomplete cleaning if a more complete job will cause damage.

--

Richard Knoppow

Los Angeles

WB6KBL

dickburk at ix.netcom.com

From 1oldlens1 at ix.netcom.com Sat Dec 7 19:05:08 2013

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Sat, 7 Dec 2013 16:05:08 -0800

Subject: [BoatAnchors] Scrubbing Bubbles

References: <a35b3.3ce7ec5c.3fd4f898@aol.com>

Message-ID: <48994A41A85D4593BB5215CA84A68BF9@VALUED20606295>

Re my last post about washing: I probably should make it clear that the dishwashing detergent I mean is the liquid kind sold for hand washing, not the rather stonger kind sold for use in machines. I am not sure but think the machine kind has fairly strong alkalies in it to accelerate the washing much like laundry detergent. The liquid kind is meant to be mild enough so that you can stand having your hands in it for extended periods. But one should always use protective gloves just to avoid too much contact with water, the real cause of dishpan hands. (remember all those ads that started out "Ladies, does your husband hate your RED ROUGH HANDS? Then just don't do any housework any more, that'll teach him...)

--

Richard Knoppow

Los Angeles

WB6KBL

dickburk at ix.netcom.com

From rbsingl at ilstu.edu Sat Dec 7 16:27:46 2013

From: rbsingl at ilstu.edu (Singley, Rodger)

Date: Sat, 7 Dec 2013 21:27:46 +0000

Subject: [BoatAnchors] Scrubbing Bubbles

In-Reply-To: <6.2.1.2.2.20131207123240.03e8e2d0@pop-server.nc.rr.com>

References: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
<52A3573B.7060308@comcast.net>

<6.2.1.2.2.20131207123240.03e8e2d0@pop-server.nc.rr.com>

Message-ID: <0DEBF1C8D8437248BE53CD4213B89BD322F2F9AA@ISUEMBX02.ad.ilstu.edu>

Equipment cleaning is one of those discussion areas that often turns into the radio equivalent of religion or politics.

There are a lot of useful chemical cleaners that are fine if used properly. Scrubbing Bubbles is one cleaner I have used but I am very discriminating in terms of where it goes and if it cannot be removed completely (like other cleaners) it doesn't get used. Very few cleaners (including most water sources) are residue free. And once you start blasting a chassis not only is there going to be residue from the blasting agent everywhere but also residue from whatever was liberated from the chassis. Baking Soda (along with its close cousins) is one of the last things I would want around any chassis that isn't completely stripped and won't be completely "de-contaminated" at the end of the process.

I don't believe there is any one way to clean all radio projects because there is far too much variance in materials and condition as received. There is no way I would put a complete radio in a dish washer but I have hosed off a couple of "barn fresh" radios (as the first cleaning step) outside in the summer time before I would let them get near the house. Quite frankly at some point I am far more worried about my health from inhaling some unknown crap coating a radio as opposed to possible cosmetic damage somewhere down the road.

Stan Griffiths describes a good cleaning protocol in his monograph about classic Tektronix Scopes, "Oscilloscopes: Collecting and Restoring a Classic".

Now it is time for my personal rant, people who modify radios by focusing upon creating one improvement with a resulting Pandora's box full of undesirable side effects.

Rodger WQ9E

From wb3fau55 at neo.rr.com Sun Dec 8 18:42:27 2013
From: wb3fau55 at neo.rr.com (wb3fau55 at neo.rr.com)
Date: Sun, 8 Dec 2013 18:42:27 -0500
Subject: [BoatAnchors] cleaning electronics
Message-ID: <20131208234228.GN0QJ.18766.root@cdptpa-web02-z01>

i think some of you have this covered very well. Each project you get into will need different degrees of cleaning, of course dependant on how bad of condition the item is. Another method i have used was an ultrasonic bath. I used a strong cleaner, but, as has been mentioned, you must use caution. In my case, it took plating off. If you are dealing with rust and pitting, you will need to take extreme methods to restore your project. [like the car guys do-frame off restoration.] as usual, use care. 73 Russ.

From oldradio at comcast.net Mon Dec 9 11:31:18 2013
From: oldradio at comcast.net (oldradio at comcast.net)
Date: Mon, 9 Dec 2013 16:31:18 +0000 (UTC)
Subject: [BoatAnchors] cleaning electronics
In-Reply-To: <20131208234228.GN0QJ.18766.root@cdptpa-web02-z01>
Message-ID:
<245989011.757919.1386606678152.JavaMail.root@sz0213a.westchester.pa.mail.comcast.net>

Solve everything and buy all new equipment,
then call me to pick up that old dirty junk. :-)

73, John Dilks, K2TQN

.-.

----- Original Message -----
From: wb3fau55 at neo.rr.com
To: boatanchors at theporch.com
Sent: Sunday, December 8, 2013 6:42:27 PM
Subject: [BoatAnchors] cleaning electronics

i think some of you have this covered very well. Each project you get into will need different degrees of cleaning, of course dependant on how bad of condition the item is. Another method i have used was an ultrasonic bath. I used a strong cleaner, but, as has been mentioned, you must use caution. In my case, it took plating off. If you are dealing with rust and pitting, you will need to take extreme methods to restore your project. [like the car guys do-frame off restoration.] as usual, use care. 73 Russ.

BoatAnchors mailing list
BoatAnchors at theporch.com

<https://minime.theporch.com/mailman/listinfo/boatanchors>

From richardlo at admin.athabascau.ca Mon Dec 9 14:12:55 2013
From: richardlo at admin.athabascau.ca (Richard Loken)
Date: Mon, 09 Dec 2013 12:12:55 -0700 (MST)
Subject: [BoatAnchors] Scrubbing Bubbles
In-Reply-To: <1386109806.97948.YahooMailNeo@web161001.mail.bf1.yahoo.com>
Message-ID: <Pine.PMDF.4.44L.1312091158290.1090-1000000@admin.athabascau.ca>

On Tue, 3 Dec 2013, John Sehring wrote:

> I'm getting more than a little buggy over on the Yahoo Drake radio group.
> They insist on putting radios in dish washers and cleaning them with
> corrosive cleaners.? I strongly disagree with this!? Below is a note I'm
> thinking about about sending to that list.

I agree completely. This cleaning business can be extremely destructive in the short, mid, and long term. It is all the fault of Tekronix, who used to wash down 500 era text gear and Teletype who would dump a tty mechanism into a parts washer full of SS-25 or varsol or whatever. "Don't try this at home kids!"

I recall anecdotes about GIs digging up demilled KWM-2s out of the ground in Vietnam and running them through a dishwasher. I would do that too under similar circumstances but it is a special case.

--

Richard Loken VE6BSV, Unix System Administrator	:	"Anybody can be a father
Athabasca University	:	but you have to earn
Athabasca, Alberta Canada	:	the title of 'daddy'"
** richardlo at admin.athabascau.ca **	:	- Lynn Johnston

From gumbear at pacbell.net Mon Dec 9 14:43:41 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 9 Dec 2013 11:43:41 -0800
Subject: [BoatAnchors] Through the looking glass
Message-ID: <002f01cef516\$f951b410\$4301a8c0@KB6NAX>

It came to my attention when asking the all seeing and all knowing ogre, Google, what it knows about "electronic cleaners." What I got for my minimal effort was an endless list of products self describing as "electronic cleaners". After recovering from the effects of recoil it dawned on me that these products are not for cleaning radio chassis of grubbiness but they're for cleaning those ever so sensitive touch screens on the best yet substitute for human companionship, the tablet/pad/telephone/camera brain

sucking devices now required of every citizen post bottle feeding.

I had recently picked up from my local Ace hardware store a can of CRC QD(R) Electronic Cleaner which self proclaims, "Cleans and Protects Sensitive Electronic Equipment, Helps Prevent Contact Failure, Plastic Safe, Leaves No Residue." That claim is self contradictory if you consider how does leaving no residue protect something?` The price is reasonable at the expense of the product being flammable. Seems it fills a need for a mild solvent that with some mechanical intervention is useful for spot cleaning old radio innards.

So beware, things are not what they seem to be in this Alice in Wonderland world of electronics.

Arden Allen
KB6NAX

The average dog is a nicer person than
the average person. -Andy Rooney

From gumbear at pacbell.net Mon Dec 9 14:50:18 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 9 Dec 2013 11:50:18 -0800
Subject: [BoatAnchors] Scrubbing Bubbles
Message-ID: <001a01cef517\$e6f87aa0\$4301a8c0@KB6NAX>

OK, I think everyone would agree that Baking Soda should NOT be on BA's formulary for cleaning radios.

My present top contenders for cleaning and preserving radios are, distilled water, 70% isopropyl alcohol and water (rubbing alcohol), Dawn dish washing liquid, Crystal Simple Green Industrial Cleaner (Simple Green All Purpose Cleaner contains colorant but is also good), mineral spirits (paint thinner), acetone, brake cleaner (contains a mixture of solvents including acetone and xylene), any of the lubricant free electrical contact cleaners, WD40 (or an equivalent), furniture wax (beeswax dissolved in petroleum distillate), and paste wax. Not included in this list is switch and potentiometer lubricating cleaners and mechanics lubricants which are essentially maintenance items only.

My list covers items needed for cleaning and preserving radios, ham gear, test equipment, etc. To the best of my present knowledge, when properly applied and then properly removed, no residues are likely to remain in sufficient amounts to begin a new process of deterioration. As always, know what NOT to use a particular cleaner or solvent on. For example, polystyrene, ABS, and other plastics are severely damaged by acetone.

The footnote to all this is manufacturers do not disclose the constituents in their products in order to protect their formulas from, I guess, the prying competition and ravenous lawyers. Material Safety Data Sheets (MSDS) only disclose constituents that exceed a certain toxicity or hazard threshold that presumably presents a threat to the environment or user. For example, ordinary Windex glass cleaner contains a small amount of ammonia, which if not completely removed is harmful to electronics, but is not disclosed in the Windex MSDS. Windex has other products that are ammonia free but reviews suggest not as effective at cleaning glass thoroughly. So choose your poison intelligently.

Arden Allen
KB6NAX

If you pick up a starving dog and make him prosperous, he will not bite you. This is the principle difference between a dog and a man. -Mark Twain

From gumbear at pacbell.net Mon Dec 9 17:38:41 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 9 Dec 2013 14:38:41 -0800
Subject: [BoatAnchors] Scrubbing Bubbles
References: <14303469.1386620478892.JavaMail.root@mswamui-chipeau.atl.sa.earthlink.net>
Message-ID: <003a01cef530\$8d7bcfe0\$4301a8c0@KB6NAX>

>The dry (99+%) kind should be used in preference to rubbing alcohol because it will not leave water behind when it evaporates.

The reason I suggested rubbing alcohol, Rich, is because I found it to be more effective at dissolving mixed soils than straight IPA. Water being left behind is a problem for immersion cleaning but not so much for spot cleaning. I usually follow up with an air blast to drive water droplets out so the crooks and crannies will dry quickly. If critical a hair dryer is helpful. The final step in the process is a warm drying period for the unit.

Arden Allen
KB6NAX

From richardlo at admin.athabascau.ca Mon Dec 9 23:03:40 2013

From: richardlo at admin.athabascau.ca (Richard Loken)
Date: Mon, 09 Dec 2013 21:03:40 -0700 (MST)
Subject: [BoatAnchors] Scrubbing Bubbles
In-Reply-To: <D86901462D7E4755A21A1615C71D29D4@VALUED20606295>
Message-ID: <Pine.PMDF.4.44L.1312092049170.6497-100000@admin.athabascau.ca>

On Mon, 9 Dec 2013, Richard Knoppow wrote:

> At -hp- we occasionally got equipment sent to us by the
> Marine Corps that had been in Viet Nam, it was forwarded to
> the factory without opening most of the time because most of
> it was covered in mold. Ugh!

Speaking of washing disasters.

I have a old Jackson model 648 tube tester that I am quite fond of. When I got it, it stank of mold and which I found was growing on the inside the wooden cabinet. The inside of the box was painted white and had a texture something like stipple except where it was greenish white with mold.

So I threw some chlorine bleach in the box, "That ought to kill anything living in there", says I. The white paint was immediately turned in a very painful gas which drove me out of the kitchen. I returned much later when I thought the gas might have dissipated found that the white paint had disappeared where it was contacted by the bleach.

I don't know what happened there but it is an experiment that I am in no hurry to repeat. Chlorine bleach releases chlorine gas with little provocation but what was the "paint" to cause the reaction?

--

Richard Loken VE6BSV, Unix System Administrator : "Anybody can be a father
Athabasca University : but you have to earn
Athabasca, Alberta Canada : the title of 'daddy'
** richardlo at admin.athabascau.ca ** : - Lynn Johnston

From Paul.Thekan at cpaii.com Tue Dec 10 10:01:13 2013
From: Paul.Thekan at cpaii.com (Thekan, Paul)
Date: Tue, 10 Dec 2013 07:01:13 -0800
Subject: [BoatAnchors] Looking for RBD rcvr
Message-ID: <7EC59351BB5C644E80AB7A434394DFF027EA34210E@Torreypines.cpaii.com>

Looking for the Navy RBD receiver to get together with my TCX xmtr. The RBD looks similar to the RAX series receiver but is a bit wider and can also be identified by the addition of a 4 channel selector switch.

Thank you
Paul
N6FEG

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient(s) is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.

From mike at oldaudio.net Tue Dec 10 10:45:35 2013
From: mike at oldaudio.net (Mike Durff)
Date: Tue, 10 Dec 2013 07:45:35 -0800 (PST)
Subject: [BoatAnchors] cleaning chassis
Message-ID: <1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com>

Thanks to the list ! I was about to screw up some old electronics with a soda blaster. I'll reserve that for rusty metals I can take outside.
I've built a 10 X 16 deck onto the back of my new shack just for this purpose.? The suggestion about the spray brake parts cleaner may be the way to go. I've used it to clean new steel columns which are coated with oil.? The brake parts cleaner works well, but it is or contains some nasty stuff...beware. Face mask and rubber gloves are a minimum requirement.? For the person with the mold / mildew problem, I've used cheap rubbing alcohol for many years. It works on books, leather, vinyl and most anything else. I just pour it in a spray bottle. The problem with mold is that it will throw off spores when contacted by anything other than water in an effort to procreate. Best done outside.? 40 years ago, I worked in the AV maint dept for the Memphis city school system. We had an 80 gallon dip tank with some awful product made by Oakite. We would dip copy machines, TV chassis and anything that was really dirty in the tank. After a drip dry ?we would blow off the excess with compressed air. Seemed to work fine... don't know the long term effects, as I left in 1973. Thanks, Mike?

From gumbear at pacbell.net Tue Dec 10 13:26:12 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 10 Dec 2013 10:26:12 -0800
Subject: [BoatAnchors] cleaning chassis
References: <1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com>
Message-ID: <004001cef5d6\$15696c00\$4301a8c0@KB6NAX>

>The brake parts cleaner works well, but it is or contains some
nasty stuff...beware. Face mask and rubber gloves are a minimum requirement.
.....

Mike, you don't want to spray or slosh brake cleaner into a radio chassis.
It is way too powerful a solvent for the plastics, coil laquers and
potentiometer elements to withstand. Use it only for spot removal of
hardened grease, etc. Apply with cotton swab or trimmed acid brush, prevent
uncontrolled runoff. Extremely flammable, makes a good engine starter, use
only where there are no open flames. Bad for the lungs so use only in well
ventilated area.

Arden Allen
KB6NAX

From navy.radio at gmail.com Tue Dec 10 13:43:38 2013
From: navy.radio at gmail.com (Nick England)
Date: Tue, 10 Dec 2013 13:43:38 -0500
Subject: [BoatAnchors] cleaning chassis
In-Reply-To: <004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
References: <1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com>
<004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
Message-ID: <CAB55hNds090Tj_gshiesQML2o6Zf0znkpocvkh4a+4eViFtz+w@mail.gmail.com>

A couple of years ago I was cleaning up an equipment rack in the driveway
when a couple of really big spiders came crawling out of the blower
assembly. I doused them with the first thing that came to hand, a spray can
of brake cleaner. Now I have to deal with angry giant mutant spiders. I'm
just saying.....

On Tue, Dec 10, 2013 at 1:26 PM, Arden Allen <gumbear at pacbell.net> wrote:

> >The brake parts cleaner works well, but it is or contains some
> nasty stuff...beware. Face mask and rubber gloves are a minimum
> requirement.
>
>

From gumbear at pacbell.net Tue Dec 10 15:33:17 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 10 Dec 2013 12:33:17 -0800
Subject: [BoatAnchors] cleaning chassis
References:
<1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com><004001cef5d6\$15696c

00\$4301a8c0@KB6NAX>

<CAB55hNds090Tj_gshiesQML2o6Zf0znkpocvkh4a+4eViFtz+w@mail.gmail.com>

Message-ID: <000901cef5e7\$11fce540\$4301a8c0@KB6NAX>

Nick, you misquoted me in your posting. You quoted Mike. Look again. That was Mike's statement about "nasty stuff" and "rubber gloves." Mike's "works well" needs to be better qualified.

Arden

----- Original Message -----

From: Nick England

To: Arden Allen

Cc: Mike Durff ; Old Tube Radios

Sent: Tuesday, December 10, 2013 10:43 AM

Subject: Re: [BoatAnchors] cleaning chassis

A couple of years ago I was cleaning up an equipment rack in the driveway when a couple of really big spiders came crawling out of the blower assembly. I doused them with the first thing that came to hand, a spray can of brake cleaner. Now I have to deal with angry giant mutant spiders. I'm just saying.....

On Tue, Dec 10, 2013 at 1:26 PM, Arden Allen <gumbear at pacbell.net> wrote:

>The brake parts cleaner works well, but it is or contains some nasty stuff...beware. Face mask and rubber gloves are a minimum requirement.

From 1oldlens1 at ix.netcom.com Mon Dec 9 15:21:18 2013

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Mon, 9 Dec 2013 12:21:18 -0800 (GMT-08:00)

Subject: [BoatAnchors] Scrubbing Bubbles

Message-ID: <14303469.1386620478892.JavaMail.root@mswamui-chipeau.atl.sa.earthlink.net>

-----Original Message-----

>From: Arden Allen <gumbear at pacbell.net>

>Sent: Dec 9, 2013 11:50 AM

>To: "Old Tube Radios (new)" <boatanchors at minime.theporch.com>

>Subject: Re: [BoatAnchors] Scrubbing Bubbles

>

>OK, I think everyone would agree that Baking Soda should NOT be on BA's

>formulary for cleaning radios.

>

FWIW, most rubbing alcohol is a mixture of isopropyl alcohol (isopropanol) and water. The strongest it can be is 91% since alcohol, if exposed to air, will absorb moisture until it reaches 91% which is its equilibrium. More typical rubbing alcohol is 70%. Pure or dry isopropanol can be had from places that sell computer supplies in either bottles or spray cans. The cans are better because the content is not exposed to air. Isopropanol is safe on most plastics but not cellulose nitrate or acetate. The dry (99+%) kind should be used in preference to rubbing alcohol because it will not leave water behind when it evaporates.

Xylol and acetone are effective solvents but will dissolve a number of plastics and some paints.

Naphtha is an effective degreaser which is safe for most plastics and paint but is highly inflammable. Its available in the paint department of hardware stores carries it but pure naphtha can be bought as Ronseal lighter fluid. This does not leave a residue but can be rinsed with either dry isopropyl alcohol or distilled water if desired.

Original Windex and many other glass cleaners contains ammonia in the form of ammonium hydroxide. Some cleaners for camera lenses contain ammonium carbonate which is somewhat milder. Glass cleaner also contains alcohol. The so called streak-free glass cleaners usually contain butyl alcohol and no ammonia.

Utility cleaners like Formula-401 contain a variety of detergents combined with surfactants and sometimes accelerators, usually some sort of alkali. They seem to be more likely to remove paint and labels than liquid dishwashing detergent.

WD-40 appears to be a mixture of Stoddard solvent (itself a mixture of solvents originally intended for dry cleaning of clothes) and a paraffin based oil. Not a very good lubricant but can be an effective cleaner.

What is sold as "mineral spirits" at the hardware store appears to be Stoddard Solvent.

From 1oldlens1 at ix.netcom.com Mon Dec 9 22:20:24 2013

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Mon, 9 Dec 2013 19:20:24 -0800

Subject: [BoatAnchors] Scrubbing Bubbles

References: <Pine.PMDF.4.44L.1312091158290.1090-1000000@admin.athabasca.ca>

Message-ID: <D86901462D7E4755A21A1615C71D29D4@VALUED20606295>

----- Original Message -----

From: "Richard Loken" <richardlo at admin.athabasca.ca>

To: "John Sehring" <wb0eq at yahoo.com>
Cc: "Boatanchors List" <boatanchors at theporch.com>
Sent: Monday, December 09, 2013 11:12 AM
Subject: Re: [BoatAnchors] Scrubbing Bubbles

On Tue, 3 Dec 2013, John Sehring wrote:

> I'm getting more than a little buggy over on the Yahoo
> Drake radio group.
> They insist on putting radios in dish washers and cleaning
> them with
> corrosive cleaners. I strongly disagree with this! Below
> is a note I'm
> thinking about about sending to that list.

I agree completely. This cleaning business can be extremely destructive in the short, mid, and long term. It is all the fault of Tekronix, who used to wash down 500 era text gear and Teletype who would dump a tty mechanism into a parts washer full of SS-25 or varsol or whatever. "Don't try this at home kids!"

The Teletype method sounds like the way mechanical typewriters were cleaned. First, a bath in a mixture of solvents, then rinsed, then lubed with a mixture of oil and Kerosene.

I suspect others than Tek and -hp- washed equipment.

At -hp- we occasionally got equipment sent to us by the Marine Corps that had been in Viet Nam, it was forwarded to the factory without opening most of the time because most of it was covered in mold. Ugh! I got one 608D signal generator with a fist sized hole completely through it, shrapnel I suppose. We were supposed to confirm this stuff was beyond economical repair so they could dispose of it.

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From smithab11 at comcast.net Tue Dec 10 14:52:34 2013
From: smithab11 at comcast.net (B. Smith)
Date: Tue, 10 Dec 2013 14:52:34 -0500
Subject: [BoatAnchors] cleaning chassis
In-Reply-To: <004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
References: <1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com>
<004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
Message-ID: <52A77102.1000502@comcast.net>

On 12/10/2013 1:26 PM, Arden Allen wrote:

>>The brake parts cleaner works well, but it is or contains some
> nasty stuff...beware. Face mask and rubber gloves are a minimum requirement.
>
>

I would not spray brake cleaner anywhere indoors, too volatile.
When needed for spot cleaning go outdoors, spray a small amount into a
glass container and quickly go inside to the bench as it evaporates
quickly. The stuff inside that spray canister is very very dangerous.
k4che3

From johnmb at nc.rr.com Tue Dec 10 17:08:25 2013
From: johnmb at nc.rr.com (john)
Date: Tue, 10 Dec 2013 17:08:25 -0500
Subject: [BoatAnchors] cleaning chassis
In-Reply-To: <004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
References: <1386690335.94344.YahooMailNeo@web5706.biz.mail.ne1.yahoo.com>
<004001cef5d6\$15696c00\$4301a8c0@KB6NAX>
Message-ID: <6.2.1.2.2.20131210170608.02eb0cb0@pop-server.nc.rr.com>

Amen to this...in addition it's hell on some painted surfaces AND it's
usually dispensed in full tilt mode similar to wasp spray... the cans that
shoot this stuff REALLY do it in great volume... those nozzles are hard to
modulate!

Great for greasy auto parts, not so great for chassis (unless they are bare!)

John K5MO

At 01:26 PM 12/10/2013, Arden Allen wrote:

> >The brake parts cleaner works well, but it is or contains some
> nasty stuff...beware. Face mask and rubber gloves are a minimum requirement.
>
>

>Mike, you don't want to spray or slosh brake cleaner into a radio chassis.

>It is way too powerful a solvent for the plastics, coil laquers and
>potentiometer elements to withstand. Use it only for spot removal of
>hardened grease, etc. Apply with cotton swab or trimmed acid brush, prevent
>uncontrolled runoff. Extremely flammable, makes a good engine starter, use
>only where there are no open flames. Bad for the lungs so use only in well
>ventilated area.

>

>Arden Allen

>KB6NAX

>

>

>-----
>BoatAnchors mailing list

>BoatAnchors at theporch.com

><https://minime.theporch.com/mailman/listinfo/boatanchors>

III

This email is free from viruses and malware because avast! Antivirus protection is active.

<http://www.avast.com>

From mike at oldaudio.net Tue Dec 10 17:46:44 2013

From: mike at oldaudio.net (Mike Durff)

Date: Tue, 10 Dec 2013 14:46:44 -0800 (PST)

Subject: [BoatAnchors] cleaning chassis

Message-ID: <1386715604.34123.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>

There are so many variables on this subject, there may not be one solution (no pun intended). What is one cleaning? How much is it worth? How dirty is it??

Is it stripped down to the bare chassis? Rice boxes (delicate) Mil-surplus (not so delicate)... and so on...

My reference to the brake parts cleaner was based on my experience with degreasing new steel. It does have a very forceful spray.?

As far as the statement about the mineral sprits... one may call the help desk (Call our experts at 1-800-398-3892).?at W.M. Barr Co. in Memphis. Bill Barr started the company after WW2 with his flagship product "Kleen-strip". It was made for stripping paint. They now supply most of the chemicals you may encounter in Wal-Mart, Home Depot, Ace,?Aubuchon?& True Value. It is marketed under the Kleen-Strip brand.?They will be happy to answer any questions you may have. (my better half was the IT manager there for 22 years) ? ?http://www.wmbarr.com/barr_products.aspx ? ??

Thanks, Mike

From jerry7proc at yahoo.com Sat Dec 14 15:57:11 2013

From: jerry7proc at yahoo.com (Jerry Proc)
Date: Sat, 14 Dec 2013 12:57:11 -0800 (PST)
Subject: [BoatAnchors] Virtual Spark Gap Transmitter
Message-ID: <1387054631.22459.YahooMailNeo@web121101.mail.ne1.yahoo.com>

?If anyone wants to operate and experience a ?spark gap transmitter, there is
virtual
machine at:

<http://www.zianet.com/sparks/transmitters.html#virtual>

?

Requires JAVA version 7.45 to operate. If you don?t have it,
the browser displays an empty rectangle below the title??A?Virtual?Spark
Transmitter?.

With your mouse button , you need to energize the ?device?before it will transmit.

?

Have fun.

--

Regards,
Jerry Proc
E-mail: jerry7proc at yahoo.com

From gumbear at pacbell.net Sun Dec 15 00:04:04 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 14 Dec 2013 21:04:04 -0800
Subject: [BoatAnchors] Things to think about when scrubbing bubbles
Message-ID: <000d01cef953\$179ed4d0\$4301a8c0@KB6NAX>

This was a fine day for taking a bath. And so my latest test equipment restoration project, a Tektronix 503 (I love that 'scope!), got its bubbles scrubbed. I used my recommended Crystal Simple Green, one part cleaner to five parts water, and it did just what I wanted. It removed all the superficial dirt without removing silk screenings, penciled assembler initials, and solidified oil runout from control shafts. The solidified oil was easily removed with IPA applied with Q-tips.

Before teardown in prep for the washing, the vertical and horizontal sensitivity vernier pots were very hard to turn because of the solidified oil. I applied mineral spirits to the shafts and eventually the pots were easeir to turn. After the bath the pots turned freely as if there never was a dried oil problem. This experience underscores the necessity of understanding the difference between water soluble soils and solvent soluble soils and how a mixture or separate application of both types of agents are needed to address BA cleanups.

But there's more to this saga. Of course both the main power transformer and the oscillator driven high voltage transformers were removed from the

chassis because getting them full of water would be an eventual death sentence. One of the problems peculiar to the 503 is its power transformer's 6.3 volt winding that supplies the CRT heater and operates at 3000 volts above ground. An all too common failure is a short between the the CRT heater winding and the adjacent main B+ supply winding. Having repaired several 503's by substituting a high withstand voltage filament transformer for the useless power transformer winding the 'scopes live on to be enjoyed by tubesters for years to come.

So the very first thing upon removal of the transformers was to check their leakages between windings and between windings and iron laminations. I was aghast at what my Sprague T0-4 leakage test told me - nothing was higher than 1000 megohms insulation resistance. The transformer was saturated with moisture! The 'scope must have been stored for years in a damp basement before it made its way to my door, as evidenced by the accumulation of dusty dirt which necessitated scrubbing its bubbles.

What followed was an extended dewatering period of the transformer. I perched the transformer atop a chimney lamp with a 60 watt bulb inside and let it stew for two days. I then practically soaked the transformer in WD-40, which it soaked up like a sponge. Then another 24 hours of warmth followed. At elevated temperature the insulation resistance had risen to approximately 20,000 megohms. Hours later at room temperature the resistance was unreadable, the meter was at the top the scale, probably in the vicinity of 50,000 megohms. That's pretty damn good! I think it's now safe to power the 'scope when it's back together without fear of breakdown. Let's hope, anyway.

Arden Allen
KB6NAX

It would be a horrible world if everything was on two legs.
-Cleveland Amory

From gumbear at pacbell.net Sun Dec 15 18:39:17 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 15 Dec 2013 15:39:17 -0800
Subject: [BoatAnchors] Things to think about when scrubbing bubbles
References: <cc10.70cb8f47.3fdf07e7@aol.com>
Message-ID: <001601cef9ef\$04b98490\$4301a8c0@KB6NAX>

> Thank you for your detailed write-up Arden. An oldtimer once advised boiling transformers in a pot of wax to remove moisture but I don't recall what type he recommended. Comments?

Hi, Greg. Impregnating a transformer in wax was common in transformer

manufacturing until improved varnishing techniques I guess proved to be superior. But before you impregnate a transformer you need to dry it out. Heating the transformer vaporizes the water molecules, i.e., turns the water into steam and over time the increased vapor pressure causes the water to exit the transformer. It's no different than drying your laundry in the sun, like used to be done before the better living experts decided we shouldn't be showing our undies to the neighbors. I saturate my transformers with WD-40 because it's tantamount to soaking them in molten wax and there's no need to exert a vacuum on the process to allow trapped gas to escape. Also, WD-40 contains some paraffin which helps to keep the transformer water free during high humidity conditions. That's my theory, at least.

Arden Allen
KB6NAX

The average dog is a nicer person than
the average person. -Andy Rooney

From WA1KBQ at aol.com Sun Dec 15 10:33:39 2013
From: WA1KBQ at aol.com (WA1KBQ at aol.com)
Date: Sun, 15 Dec 2013 10:33:39 -0500 (EST)
Subject: [BoatAnchors] Things to think about when scrubbing bubbles
Message-ID: <f7b3.7ad09b8.3fdf25d3@aol.com>

Thank you for your detailed write-up Arden. An oldtimer once advised boiling transformers in a pot of wax to remove moisture but I don't recall what type he recommended. Comments?

Regards, Greg

From gumbear at pacbell.net Mon Dec 16 16:05:09 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 16 Dec 2013 13:05:09 -0800
Subject: [BoatAnchors] For all you mad scientists....
Message-ID: <000e01cefaa2\$86433340\$4301a8c0@KB6NAX>

.....this makes life easier: <http://www.chemicalelements.com/>

Arden

From mike at oldaudio.net Wed Dec 18 14:18:20 2013
From: mike at oldaudio.net (Mike Durff)
Date: Wed, 18 Dec 2013 11:18:20 -0800 (PST)
Subject: [BoatAnchors] flat copper or brass ?

Message-ID: <1387394300.82484.YahooMailNeo@web5705.biz.mail.ne1.yahoo.com>

Hello to the list. In my quest to build an "old buzzard" station, a la, 1920's style... I see the "pancake" style coils in many, if not all, of the photos . I suppose these were holdovers from the spark era. Do any of you know where I can purchase flat stock of copper or brass suitable for winding said coils? K&S has stock brass & copper but they are more like flat bars and max 36" in length. On the other end of the scale I have found conductive copper on a roll, but it is far to thin to hold it's shape. ? Any suggestions would be appreciated.

TNX, Mike

From mike at oldaudio.net Thu Dec 19 11:52:58 2013

From: mike at oldaudio.net (Mike Durff)

Date: Thu, 19 Dec 2013 08:52:58 -0800 (PST)

Subject: [BoatAnchors] copper & brass

Message-ID: <1387471978.28539.YahooMailNeo@web5704.biz.mail.ne1.yahoo.com>

Thanks to all the list members who responded. Chuck K7MCG sent this link.

<http://basiccopper.com/costformo.html>

Thanks, Chuck, looks like just what I need.

From esieb at sympatico.ca Wed Dec 18 14:27:25 2013

From: esieb at sympatico.ca (Ed Sieb)

Date: Wed, 18 Dec 2013 14:27:25 -0500

Subject: [BoatAnchors] flat copper or brass ?

In-Reply-To: <1387394300.82484.YahooMailNeo@web5705.biz.mail.ne1.yahoo.com>

References: <1387394300.82484.YahooMailNeo@web5705.biz.mail.ne1.yahoo.com>

Message-ID: <BLU0-SMTP2634331C03263A71B48989C9DA0@phx.gbl>

Try copper roof flashing from your local roofers.

Ed, VA3ES

Mike Durff wrote:

[...] Do any of you know where I can purchase flat stock of copper or brass suitable for winding said coils? K&S has stock brass & copper but they are more like flat bars and max 36" in length. On the other end of the scale I have found conductive copper on a roll, but it is far to thin to hold it's shape. ? Any suggestions would be appreciated.

From spr at earthlink.net Thu Dec 19 17:18:31 2013

From: spr at earthlink.net (Scott Robinson)

Date: Thu, 19 Dec 2013 14:18:31 -0800

Subject: [BoatAnchors] flat copper or brass ?

In-Reply-To: <1387394300.82484.YahooMailNeo@web5705.biz.mail.ne1.yahoo.com>
References: <1387394300.82484.YahooMailNeo@web5705.biz.mail.ne1.yahoo.com>
Message-ID: <52B370B7.7010903@earthlink.net>

Copper has a *much* lower resistance than brass, so that's what I'd use.
Paint it with Polyurethane varnish to keep it red and shiny.

/scott

From gumbear at pacbell.net Fri Dec 20 17:13:57 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 20 Dec 2013 14:13:57 -0800
Subject: [BoatAnchors] Bubbles that won't scrub (very long)
Message-ID: <000d01cefdd0\$ce551370\$4301a8c0@KB6NAX>

A bit ago I reported on my latest adventures in bathtub antic the washing of a Tektronix 503 oscilloscope. After reassembling the 'scope with it's newly dried out power transformer powered up without incident, all electrolytics behaved nicely, no heating while coming up gradually by variac, and the CRT was bright and burn free.

And then the fun began. Practically every control was erratic as the Devil, this in spite of having doused everything with MG Chemicals Super Contact Cleaner (which contains a good quality lubricant). The vertical channel DC Balance control was jumpy. A resistance check revealed the 250 ohm carbon pot to be around 650 ohms with a contacting gap in the middle of rotation. I opened the pot to find bits of the carbon track strewn around inside. I wondered if my wash job had anything to do with that. No, apparently not, because the horizontal DC Balance control was working just fine and its resistance was close enough to 250 ohms. So I concluded, along with ample other evidence, the scope had a busy life at one time, in spite of having no evidence of carrying calibration stickers.

But that was just one of a competing set of problems that almost drove me over the cliff. The power supply regulator circuit was hiding a problematic component. Application of freeze led to a series of erroneous conclusions that caused me to replace three resistors before the real culprit revealed itself to be a precision metal film type.

While scratching my head as to whether I could find a 250 ohm pot in my parts menagerie the trace decided it wanted to live up high and out of view. Adjustment of both the internal and front panel position and balance controls did not correct the problem, to vertically center the trace the Position control had to be at 8 o'clock. Voltage and resistance checks in the vertical amplifier circuit produced an abundance of confusion. I cannibalized a 250 ohm pot from an organ donor and installed it without correcting the vertical offset. My last resort was to check two silicon

switching diodes utilized as amplitude limiting clamps. In circuit checking produced ambiguity. I hate disturbing the elegance of the ceramic terminal strips on a hunch but stifling a scream I unsoldered one end of the diodes and, confirming a repulsive notion, one of the diodes had failed in an unusual way. It had turned into a ***bi-directional resistor***, measuring about 15K in one direction and about twice that in the other. It's probably rare that a switching diode fails like that, they mostly go open or dead short. With the diodes out the trace was properly centered.

Now, I needed to do some research to find out what Tektronix wanted me to use as a replacement. Tek's suggestion was to use a 1N3605. Datasheet Archive produced a nice listing of switching diodes from American Power Devices. A 1N3605, at 40 volts reverse breakdown and 50 nanoamps reverse leakage is nothing special, a 1N914 or 1N4148 will do just fine. But to avoid a new set of problems, I'll check the reverse leakage current of the intended replacements.

Difficult to imagine, but as this mix of problem solving was going on the scope started sending up a smoke signal. Power OFF! Now began a cat and mouse chase. It took several short power on cycles to discover where the smoke was emanating from, a phenolic switch wafer. On the good side the wafer would be relatively easy to replace with one from the organ donor. But curiosity is what kills the mouse chaser so I had a harder look. It wasn't too long before I faced with a silver migration dilemma. It had not escaped me that the silver plating on switch contacts was heavily coated in tarnish, black everywhere. Between adjacent rotor contact rings in the offending wafer, where the voltage difference is 150 volts, was an array of black tracks splayed between the rings.

Could I save the wafer, I was thinking while contemplating the work needed to replace the wafer? With eye loupe and intense lighting and began looking for and scraping away with a sharp point soldering aid tracks as I found them. It wasn't easy. After a few scrapings I flushed the wafer with contact cleaner and applied power. Out came the smoke but now with a better chance as discovering the damaged point on the wafer. Several times over I repeated the scrape, flush, and smoke test procedure. It finally happened that the solder aid dived into a rut between the rotor rings. It rut was full of blackness but it all came out by digging with the tool. Finally, power applied, no more smoke.

After that episode of dodging windmills I sat back and analyzed what occurred and what I came up with was a pleasant surprise. Current flows through the black deposit of silver compounds and causes it to heat. The smoke comes, not from the wafer, but from the oxidizing contact cleaner lubricant. The wafer is protected from further damage by the lubricant holding off oxygen. Wow, it works just like solder flux to prevent oxidation! Of course, just like with soldering, once the protectant is all burned off there is no more protection. Lesson learned: Always apply

contact cleaner before applying power where corrosion is observed. The switch you save may be your own.

The next episode will be about fighting the switch contacting problem and how to overcome the nasty tarnish. I'm still working that one out....

Arden Allen
KB6NAX

I love a dog. He does nothing for political reasons.
-Will Rogers

From gumbear at pacbell.net Fri Dec 20 17:29:22 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 20 Dec 2013 14:29:22 -0800
Subject: [BoatAnchors] CRT filters
Message-ID: <001501cefdd2\$f0dd2f70\$4301a8c0@KB6NAX>

For several years I had been looking for a thin, colored, transparent plastic to act as a light filter for better viewing contrast on oscilloscope screens. Tektronix had supplied smoke, green and blue filters for their scopes but none are findable anymore for 500 series 'scopes. But Google finally obliged itself to find me a source for a workable material. MaxiAids.com supplies 0.01 inch thick 8 1/2 by 11 sheets of various colored acrylic plastic, the purpose being for readers who experience difficulty comprehending words due to dyslexia or other vision problems. At \$2.29 per sheet several colors are available, among them two shades of blue and one of yellow. No green but blue and yellow layered makes a passable green. Worth the modest price, IMO.

Arden Allen
KB6NAX

Adopt a shelter dog,
save an innocent life,
and make a friend forever =:-)

From arc5 at ix.netcom.com Fri Dec 20 19:19:08 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Fri, 20 Dec 2013 18:19:08 -0600
Subject: [BoatAnchors] A Super-Easy 95 Volt B+ Supply for Your Projects.
Message-ID: <1292F77D6E50450FBF150BEEC6F1C9A0@CompaqSR5710F>

As ya'll know, I've had good luck working with monolythic

DC/DC converters for powering projects.
Many of them aren't useful for us, having outputs like 5V etc.,
but there is a current listing that will fit many projects.
I bought a couple for testing.
They were quiet inexpensive- \$8 each.

<http://www.ebay.com/itm/160775207820>

A spec sheet is at:

www.murata-ps.com/data/power/bwr15-20wa-series.pdf

While the converters are speced for 18 to 75 volts DC in
to produce an isolated-from-the-input dual output of + and - 48 Volts,
I've tested these down to 10 Volts in and they still worked fine.
The two output supplies have a common "ground." By leaving this "common"
open and connecting the + output as B+ and the - output to ground
(12 volt input common),
I have a 95 VDC B+ supply from 12 or 24 Volts in.
I tested it by powering-up a "hammed" BC-454 receiver.
It worked well but does have some low-amplitude "birdies"
on the output. I did not do any RF filtering during the tests.
I have filtered other DC/DC converters like this with ferrites and
that took care of the birdies. Smarter people than me will have
ideas on this.
I'm ordering some more. Very useful.

73 DE Dave AB5S

From 4cx250b at miamioh.edu Fri Dec 20 20:05:04 2013
From: 4cx250b at miamioh.edu (MU 4CX250B)
Date: Fri, 20 Dec 2013 18:05:04 -0700
Subject: [BoatAnchors] CRT filters
In-Reply-To: <001501cefdd2\$f0dd2f70\$4301a8c0@KB6NAX>
References: <001501cefdd2\$f0dd2f70\$4301a8c0@KB6NAX>
Message-ID: <-61465503465415839@unknownmsgid>

That's a great find, Arden. I've been looking for something like that
for years. Thanks!

73,
Jim W8ZR

Sent from my iPhone

> On Dec 20, 2013, at 3:29 PM, Arden Allen <gumbear at pacbell.net> wrote:
>

> For several years I had been looking for a thin, colored, transparent
> plastic to act as a light filter for better viwing contrast on oscilloscope
> screens. Tektronix had supplied smoke, green and blue filters for their
> scopes but none are findable anymore for 500 series 'scopes. But Google
> finally obliged itself to find me a source for a workable material.
> MaxiAids.com supplies 0.01 inch thick 8 1/2 by 11 sheets of various colored
> acrylic plastic, the purpose being for readers who experience difficulty
> comprehending words due to dyslexia or other vision problems. At \$2.29 per
> sheet several colors are available, among them two shades of blue and one of
> yellow. No green but blue and yellow layered makes a passable green. Worth
> the modest price, IMO.
>
> Arden Allen
> KB6NAX
>
> Adopt a shelter dog,
> save an innocent life,
> and make a friend forever =:-)
>
>
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From bill at iaxs.net Fri Dec 20 20:32:00 2013
From: bill at iaxs.net (Bill Hawkins)
Date: Fri, 20 Dec 2013 19:32:00 -0600
Subject: [BoatAnchors] CRT filters
In-Reply-To: <001501cefdd2\$f0dd2f70\$4301a8c0@KB6NAX>
References: <001501cefdd2\$f0dd2f70\$4301a8c0@KB6NAX>
Message-ID: <F327E22FEE6446F4B94C89D731D68F36@system072>

How about gels for theater lights? These are thin, but thicker than cellophane, and could be attached to clear plastic.

Bill Hawkins

Outside of a dog, a book is a man's best friend.
Inside of a dog, it's too dark to read. -Groucho Marx

-----Original Message-----

From: Arden Allen
Sent: Friday, December 20, 2013 4:29 PM

For several years I had been looking for a thin, colored, transparent plastic to act as a light filter for better viwing contrast on

oscilloscope screens. Tektronix had supplied smoke, green and blue filters for their scopes but none are findable anymore for 500 series 'scopes. But Google finally obliged itself to find me a source for a workable material.

MaxiAids.com supplies 0.01 inch thick 8 1/2 by 11 sheets of various colored acrylic plastic, the purpose being for readers who experience difficulty comprehending words due to dyslexia or other vision problems. At \$2.29 per sheet several colors are available, among them two shades of blue and one of yellow. No green but blue and yellow layered makes a passable green. Worth the modest price, IMO.

Arden Allen
KB6NAX

Adopt a shelter dog,
save an innocent life,
and make a friend forever =:-)

From arc5 at ix.netcom.com Fri Dec 20 19:55:54 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Fri, 20 Dec 2013 18:55:54 -0600
Subject: [BoatAnchors] P.S.: A Super-Easy 95 Volt B+ Supply for Your Projects.
In-Reply-To: <1292F77D6E50450FBF150BEEC6F1C9A0@CompaqSR5710F>
References: <1292F77D6E50450FBF150BEEC6F1C9A0@CompaqSR5710F>
Message-ID: <1FF41810341E4D34ABFA7AC123895292@CompaqSR5710F>

P.S.
Be sure to read the spec sheet.
You can use pin 8 to "trim" the outputs +/- 5%.

Pin 4 will turn the converter "OFF" if you apply a logic HI voltage, but beware: If any voltage is applied to pin 4 while the converter is otherwise unpowered, it will damage the PWM controller. Don't know why, and I'm going to seal pin 4 with RTV on my projects, just to protect it.

From arc5 at ix.netcom.com Sat Dec 21 03:12:35 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Sat, 21 Dec 2013 02:12:35 -0600
Subject: [BoatAnchors] Super-Easy 95 Volt B+ Math Goof
In-Reply-To: <1FF41810341E4D34ABFA7AC123895292@CompaqSR5710F>

References: <1292F77D6E50450FBF150BEEC6F1C9A0@CompaqSR5710F>
<1FF41810341E4D34ABFA7AC123895292@CompaqSR5710F>
Message-ID: <D9C2FC5387894310A3388F511715FDD3@CompaqSR5710F>

6 AMPS? Wish I could remember what I was drinking last night...
That's what I get for writing when I'm exhausted.
Thanks for catching my goof, Peter G.
The converter will do a little better than 200 mils out.
Still enough to sting ya.

From garygarlic at earthlink.net Sat Dec 21 14:44:23 2013
From: garygarlic at earthlink.net (Gary Woods)
Date: Sat, 21 Dec 2013 14:44:23 -0500
Subject: [BoatAnchors] Mystery button
Message-ID: <nnrbb9dd4m8relg3r9donodkcqnmh7413j@4ax.com>

While cleaning the bench, I found this keytop, in the original bag.
A brass figlagee with oakleaf cluster to anybody who can identify the
equipment it was on.

<http://home.earthlink.net/~garygarlic/data/MysteryPic.JPG>
and
<http://home.earthlink.net/~garygarlic/data/MysteryPicA.JPG>

--

Gary Woods AKA K2AHC- PGP key on request, or at home.earthlink.net/~garygarlic
Zone 5/4 in upstate New York, 1420' elevation. NY WO G

From 1oldlens1 at ix.netcom.com Fri Dec 20 18:27:08 2013
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Fri, 20 Dec 2013 15:27:08 -0800 (GMT-08:00)
Subject: [BoatAnchors] CRT filters
Message-ID: <29496728.1387582028899.JavaMail.root@elwamui-darkeyed.atl.sa.earthlink.net>

-----Original Message-----

>From: Arden Allen <gumbear at pacbell.net>
>Sent: Dec 20, 2013 2:29 PM
>To: "Old Tube Radios (new)" <boatanchors at minime.theporch.com>
>Subject: [BoatAnchors] CRT filters
>
>For several years I had been looking for a thin, colored, transparent

>plastic to act as a light filter for better viewing contrast on oscilloscope
>screens. Tektronix had supplied smoke, green and blue filters for their
>scopes but none are findable anymore for 500 series 'scopes. But Google
>finally obliged itself to find me a source for a workable material.
>MaxiAids.com supplies 0.01 inch thick 8 1/2 by 11 sheets of various colored
>acrylic plastic, the purpose being for readers who experience difficulty
>comprehending words due to dyslexia or other vision problems. At \$2.29 per
>sheet several colors are available, among them two shades of blue and one of
>yellow. No green but blue and yellow layered makes a passable green. Worth
>the modest price, IMO.

>
>Arden Allen
>KB6NAX
>

There is a very wide variety of colors available for stage lighting and for
use on cameras See
<http://www.leefilters.com/>

For more. I think the stage lighting kind might offer appropriate colors and
the gels are not expensive.

-hp- and others also offered circularly polarized material for use on scopes.
The idea is that the direction of the polarization is reversed on reflection so
that the result is to substantially reduce light reflected from a CRT screen while
attenuating the light from the phosphor very little. This of course, will work on
phosphor of any color. Lee offers circularly polarized filters for camera use,
they are necessary for certain types of through the lens exposure meters, but
would be expensive for this use. I didn't search thoroughly so perhaps they have
something reasonably priced. B&H Photo and many other places sell Lee filters.

From 1oldlens1 at ix.netcom.com Sat Dec 21 15:21:05 2013
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 21 Dec 2013 12:21:05 -0800
Subject: [BoatAnchors] Mystery button
References: <nnrbb9dd4m8relg3r9donodkcqnmh7413j@4ax.com>
Message-ID: <18B480DED76B4CF5B44433D65008C24C@VALUED20606295>

----- Original Message -----

From: "Gary Woods" <garygarlic at earthlink.net>
To: <boatanchors at theporch.com>
Sent: Saturday, December 21, 2013 11:44 AM
Subject: [BoatAnchors] Mystery button

> While cleaning the bench, I found this keytop, in the
> original bag.

> A brass figlasee with oakleaf cluster to anybody who can
> identify the
> equipment it was on.
>
> <http://home.earthlink.net/~garygarlic/data/MysteryPic.JPG>
> and
> <http://home.earthlink.net/~garygarlic/data/MysteryPicA.JPG>
>

An elevator?

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From arc5 at ix.netcom.com Sun Dec 22 12:58:26 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Sun, 22 Dec 2013 11:58:26 -0600
Subject: [BoatAnchors] More on that +/- 48 Volt DC-DC Converter
Message-ID: <08E680AFE9DD429F97161F9ECF0949BB@CompaqSR5710F>

A few people asked so here's a photo of the little "brick"
supplying +97 VDC to the ham-verted BC-454.
Works excellent and plenty of audio.
Here's a photo of it just "tacked" onto the back deck
of the receiver on my cluttered work bench:
<http://home.netcom.com/~arc5/dcdcpwr.jpg>

The receiver works entirely on 12 VDC.
Even powered it from a Gel Cell for awhile.
Since there is no filtering, there are birdies at
each harmonic of the switching freq- about 160 KC.
None of them have been a problem so far and a pot
on the "trim" input would likely move any birdie if it
was an issue.
73 DE Dave AB5S

From arc5 at ix.netcom.com Mon Dec 23 06:56:43 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 23 Dec 2013 05:56:43 -0600
Subject: [BoatAnchors] DC-DC: Need a Receiver Bias Supply?
Message-ID: <871BF0707F59411B976BD65CF4981E15@CompaqSR5710F>

Another use for these little DC-DC converter bricks:
If you get one that's isolated (the output does not share a common negative or ground with the input), you can use it to "flip" your A+ voltage of 6, 12, or 24 volts and zener it to a nice little bias supply.
There are many little low-current converters available for cheap with various inputs and outputs.
For example- if your A+ is 12 Volts and you need -7.5 bias, get one that does 10-16 Volts in, 9 or 12 Volts out.
Resistor and a zener and away you go.

The RFI situation may vary, but I've built a couple of supplies using DC-DC converters with ferrites and a metal box to encase them. It's worked for me with the residual "birdies" not being any problem (hey... whadda ya want for a \$10 supply??).

To see what's available, search the Bay with this string:

-non dc-dc converter isolated

"-non" because otherwise it will list "non-isolated" and that won't work for a bias supply.

73 DE Dave AB5S

From arc5 at ix.netcom.com Mon Dec 23 07:53:46 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 23 Dec 2013 06:53:46 -0600
Subject: [BoatAnchors] DC-DC: Need a Receiver Bias Supply?
Message-ID: <D5ABA0D6ADCA4BA68ACCE8FE8FC3AAE7@CompaqSR5710F>

----- Original Message -----

From: "Bill Cromwell" <wrcromwell at gmail.com>
> I haven't used zener diodes in a grid circuit as they are reported to be
> excellent noise generators. I'm reluctant to put a noise generator on a
> grid and degrade the receiver's noise performance. ...
> Are there some people who have used a zener diode in a grid circuit
> (bias supply regulator) without noise problems? Maybe with a filter cap?
> 73,
> Bill KU8H

That's an excellent point I hadn't thought of, Bill.
One of the reasons I'm so glad to have access to people smarter than me :-).
Since this is a little-to-no current bias supply, the small converters typically sourcing a Watt or two and already

regulated, perhaps a simple resistive Voltage divider is a better answer. I'm going to look into that.

73 and Best for Christmas, Dave AB5S

From kd5byb at kd5byb.net Mon Dec 23 11:29:04 2013
From: kd5byb at kd5byb.net (Ben Hall)
Date: Mon, 23 Dec 2013 10:29:04 -0600
Subject: [BoatAnchors] Adapters for Can Capacitors
Message-ID: <52B864D0.9090507@kd5byb.net>

Good morning all,

Many months ago, I needed to replace several of the can capacitors in my HP 400H AC VTVM as they were no longer good.

Rebuilding the cans is doable, but time consuming, and sometimes it isn't possible to fit the needed number of cylindrical, replacement capacitors inside the old cans.

Thinking about this some...I thought it would be possible to create a printed circuit board that would fit the same footprint as the can capacitor, have the same type of terminals, yet accept new capacitors.

I've got my first prototype together. Photos can be seen at the following links:

<http://www.kd5byb.net/CAP/cap_adapt_01.jpg>
<http://www.kd5byb.net/CAP/cap_adapt_02.jpg>
<http://www.kd5byb.net/CAP/cap_adapt_03.jpg>

The sole problem I see with these, and maybe it isn't a problem, is that it was hard to duplicate the original twist-lock mounting tabs. Instead of twisting to lock, the tabs will need to be folded over to retain the assembly to the chassis.

Grounding is also an issue. The original twist-lock tabs had a little "barb" that would ensure good (or maybe no so good!) electrical contact to the chassis. When the tabs are folded over in my replacement, good electrical contact **will not** be made. HP seems to realize this was a problem on the 400H, each can capacitor has one tab grounded with a piece of bus-wire.

Thanks much and 73,
ben, kd5byb

From pulsarxp at embarqmail.com Mon Dec 23 13:33:47 2013
From: pulsarxp at embarqmail.com (L L bahr)
Date: Mon, 23 Dec 2013 13:33:47 -0500 (EST)
Subject: [BoatAnchors] Adapters for Can Capacitors
In-Reply-To: <52B864D0.9090507@kd5byb.net>
Message-ID: <857005453.17597035.1387823627481.JavaMail.root@embarqmail.com>

Been doing this for a couple years now. However, my PC adapters are made to the size of the original fiber diamond shaped mounts.

Lee, w0vt

----- Original Message -----

From: "Ben Hall" <kd5byb at kd5byb.net>
To: "Old Tube Radios" <boatanchors at theporch.com>
Sent: Monday, December 23, 2013 10:29:04 AM
Subject: [BoatAnchors] Adapters for Can Capacitors

Good morning all,

Many months ago, I needed to replace several of the can capacitors in my HP 400H AC VTVM as they were no longer good.

Rebuilding the cans is doable, but time consuming, and sometimes it isn't possible to fit the needed number of cylindrical, replacement capacitors inside the old cans.

Thinking about this some...I thought it would be possible to create a printed circuit board that would fit the same footprint as the can capacitor, have the same type of terminals, yet accept new capacitors.

I've got my first prototype together. Photos can be seen at the following links:

<http://www.kd5byb.net/CAP/cap_adapt_01.jpg>
<http://www.kd5byb.net/CAP/cap_adapt_02.jpg>
<http://www.kd5byb.net/CAP/cap_adapt_03.jpg>

The sole problem I see with these, and maybe it isn't a problem, is that it was hard to duplicate the original twist-lock mounting tabs. Instead of twisting to lock, the tabs will need to be folded over to retain the assembly to the chassis.

Grounding is also an issue. The original twist-lock tabs had a little "barb" that would ensure good (or maybe no so good!) electrical contact to the chassis. When the tabs are folded over in my replacement, good electrical contact **will not** be made. HP seems to realize this was a problem on the 400H, each can capacitor has one tab grounded with a

piece of bus-wire.

Thanks much and 73,
ben, kd5byb

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From johnmb at nc.rr.com Sun Dec 22 19:17:36 2013
From: johnmb at nc.rr.com (john)
Date: Sun, 22 Dec 2013 19:17:36 -0500
Subject: [BoatAnchors] More on that +/- 48 Volt DC-DC Converter
In-Reply-To: <08E680AFE9DD429F97161F9ECF0949BB@CompaqSR5710F>
References: <08E680AFE9DD429F97161F9ECF0949BB@CompaqSR5710F>
Message-ID: <6.2.1.2.2.20131222191533.04a3a4d0@pop-server.nc.rr.com>

Now that is slick. You couldn't come close to building a linear supply for that price (which as I recall was somewhere south of ten bucks).

Most of all, I'm glad someone's bench looks like mine.

73 es Merry Christmas
John K5MO

At 12:58 PM 12/22/2013, David Stinson wrote:
>A few people asked so here's a photo of the little "brick"
>supplying +97 VDC to the ham-verted BC-454.

This email is free from viruses and malware because avast! Antivirus protection is active.
<http://www.avast.com>

From kb8tad at gmail.com Mon Dec 23 14:00:02 2013
From: kb8tad at gmail.com (Rich Post)
Date: Mon, 23 Dec 2013 14:00:02 -0500
Subject: [BoatAnchors] More on that +/- 48 Volt DC-DC Converter
In-Reply-To: <6.2.1.2.2.20131222191533.04a3a4d0@pop-server.nc.rr.com>
References: <08E680AFE9DD429F97161F9ECF0949BB@CompaqSR5710F>
<6.2.1.2.2.20131222191533.04a3a4d0@pop-server.nc.rr.com>
Message-ID: <CAEJr0FsV5h=La3-ienI_ORY+ybi3LDunCPEqR0WAqf2Lj8pcJA@mail.gmail.com>

Sounds like just the ticket for "B" battery elimination for a Zenith Transoceanic or a "farm set" of the past if the birdies can be controlled. I'm assuming it can do 90 volts at 10 to 20 mA if fed by 9 or possibly 7.5 volts. Maybe even 6 volts? have you tested its lower limit with a relatively small load?

Tnx es 73,
Rich KB8TAD

On Sun, Dec 22, 2013 at 7:17 PM, john <johnmb at nc.rr.com> wrote:

> Now that is slick.
>
>

From gumbear at pacbell.net Mon Dec 23 17:38:48 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 23 Dec 2013 14:38:48 -0800
Subject: [BoatAnchors] Adapters for Can Capacitors
References: <52B864D0.9090507@kd5byb.net>
Message-ID: <002801cf0034\$1589b740\$4301a8c0@KB6NAX>

>The sole problem I see with these, and maybe it isn't a problem, is that it was hard to duplicate the original twist-lock mounting tabs. Instead of twisting to lock, the tabs will need to be folded over to retain the assembly to the chassis.

Ben, the Twist-Lok capacitor mounting tabs were never intended to make a good connection to chassis. One or two need to be soldered to either a mounting saddle (such as needed for mounting on an aluminum chassis) or soldered to a solderable chassis that has been punched with the Twist-Lok hole pattern.

The problem I see with your fabricated capacitor mounting is not that isn't a viable solution but that it is far more work and expense than buying the needed capacitor sizes that will fit into the original can. Only on a few occasions I've had to mount just one additional capacitor externally to provide all the capacitors needed.

Arden Allen
KB6NAX

Properly trained a man can be
dog's best friend. -Corey Ford

From gumbear at pacbell.net Mon Dec 23 18:09:41 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 23 Dec 2013 15:09:41 -0800
Subject: [BoatAnchors] Bubbles that won't scrub redux #2
References: <000d01cefdd0\$ce551370\$4301a8c0@KB6NAX>
Message-ID: <002901cf0034\$160269b0\$4301a8c0@KB6NAX>

I last reported on my struggle to restore a Tektronix 503 that everywhere there was silver it was as black as night with tarnish. Not only were the rotary switches largely dysfunctional but three of the 20 ceramic trimmer capacitors that frequency compensate the vertical and horizontal attenuator steps failed open during adjustment. Apparently enough of the silver had been converted to tarnish that not enough was left to withstand the friction forces of rotor rotation.

Somewhat reasonable function was restored to the rotary switches with copious application of contact cleaner/lube interspersed with straight 1,1,1 trichlorethane. It was a long and repetitious exercise with only the satisfaction that I was headed in the right direction.

While dealing with this torturous task I had plenty of time to entertain better alternatives by fancy. So at one pointed I retired to the keyboard and asked Google, in its worldly wisdom, what it would do. Sampling one ham radio forum (its URL now escapes me) the discussion of what to do about silver tarnish provided some interesting ideas. One was that methyl alcohol worked well enough. I thought, yes, alcohol can be corrosive on metals, so maybe it can produce favorable results. There were the often suggested use of various makes and models of pencil erasers. Those I discounted because of the lack of access to nested wafers and the potential for damage to the contacting fingers. A couple of posts suggested Tarn-X liquid silver tarnish remover. I read up on Tarn-X to find out that's its formula is mildly acidic. That was interesting because Simple Green is mildly alkaline so clean-up would involve neutralization of the acid and with Simple Green's excellent rinsability perhaps no negative effects would ensue from unremovable residues. That's pretty much the fanciful part of this little trek into the unknown.

I dropped by my my local Ace the friendly helper place and bought a bottle of Tarn-X. Having a box full of various condition single phenolic wafer swithes with lots of postions I'm planning a pseudo-scientific experiment to see what I can learn. Comments invited before I make the plunge.

Arden Allen
KB6NAX

The average dog is a nicer person than

the average person. -Andy Rooney

From dxguy at earthlink.net Tue Dec 24 05:42:09 2013
From: dxguy at earthlink.net (don davis)
Date: Tue, 24 Dec 2013 02:42:09 -0800
Subject: [BoatAnchors] Bubbles that won't scrub redux #2
In-Reply-To: <002901cf0034\$160269b0\$4301a8c0@KB6NAX>
References: <000d01cefdd0\$ce551370\$4301a8c0@KB6NAX>
<002901cf0034\$160269b0\$4301a8c0@KB6NAX>
Message-ID: <!!
AAAAAAAAAAAAA03NLm+r0kBFo+eoE0IVyavCgAAAAEAAAAKmVeGw+cF5ErPRodiSk0REBAAAAAA
==@earthlink.net>

Here is a link to a very good white paper from Tyco connectors that I used in previous aerospace business. Suggests Ag2S is major tarnish compound and is semi-conducting, so may be / may not be a problem. AgCl is less common but is non-conductive, so should avoid all chlorinated compound including salt. Paper does not discuss cleaning methods but is a good tutorial (switch contacts are very similar to connector contacts).

http://www.te.com/documentation/whitepapers/pdf/Ag_use_connectors_503-1016.pdf

73 de don ad6pb

-----Original Message-----

From: BoatAnchors [mailto:boatanchors-bounces at theporch.com] On Behalf Of Arden Allen
Sent: Monday, December 23, 2013 3:10 PM
To: Arden Allen; Old Tube Radios (new)
Subject: Re: [BoatAnchors] Bubbles that won't scrub redux #2

I last reported on my struggle to restore a Tektronix 503 that everywhere there was silver it was as black as night with tarnish. Not only were the rotary switches largely dysfunctional but three of the 20 ceramic trimmer capacitors that frequency compensate the vertical and horizontal attenuator steps failed open during adjustment. Apparently enough of the silver had been converted to tarnish that not enough was left to withstand the friction forces of rotor rotation.

Somewhat reasonable function was restored to the rotary switches with copious application of contact cleaner/lube interspersed with straight 1,1,1 trichlorethane. It was a long and repetitious exercise with only the satisfaction that I was headed in the right direction.

While dealing with this torturous task I had plenty of time to entertain

better alternatives by fancy. So at one pointed I retired to the keyboard and asked Google, in its worldly wisdom, what it would do. Sampling one ham radio forum (its URL now escapes me) the discussion of what to do about silver tarnish provided some interesting ideas. One was that methyl alcohol worked well enough. I thought, yes, alcohol can be corrosive on metals, so maybe it can produce favorable results. There were the often suggested use of various makes and models of pencil erasers. Those I discounted because of the lack of access to nested wafers and the potential for damage to the contacting fingers. A couple of posts suggested Tarn-X liquid silver tarnish remover. I read up on Tarn-X to find out that's its formula is mildly acidic. That was interesting because Simple Green is mildly alkaline so clean-up would involve neutralization of the acid and with Simple Green's excellent rinsability perhaps no negative effects would ensue from unremovable residues. That's pretty much the fanciful part of this little trek into the unknown.

I dropped by my my local Ace the friendly helper place and bought a bottle of Tarn-X. Having a box full of various condition single phenolic wafer swithes with lots of postions I'm planning a pseudo-scientific experiment to see what I can learn. Comments invited before I make the plunge.

Arden Allen
KB6NAX

The average dog is a nicer person than
the average person. -Andy Rooney

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From arc5 at ix.netcom.com Tue Dec 24 06:28:45 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Tue, 24 Dec 2013 05:28:45 -0600
Subject: [BoatAnchors] More on that +/- 48 Volt DC-DC Converter
In-Reply-To: <CAEJr0FsV5h=La3-ien_i_ORY+ybi3LDunCPEqR0WAqf2Lj8pcJA@mail.gmail.com>
References:
<08E680AFE9DD429F97161F9ECF0949BB@CompaqSR5710F><6.2.1.2.2.20131222191533.04a3a4d0@pop-server.nc.rr.com>
<CAEJr0FsV5h=La3-ien_i_ORY+ybi3LDunCPEqR0WAqf2Lj8pcJA@mail.gmail.com>
Message-ID: <6C948634F5CC49AA9E7F895DE6236C3D@CompaqSR5710F>

----- Original Message -----
From: "Rich Post" <kb8tad at gmail.com>

> I'm assuming it can do 90 volts at 10 to 20 mA

They are rated for up to 200 mils out.

I haven't tested one below 11.5 volts, where it was still happily powering the little receiver.

I'll see where the "drop-out" happens and get back to you.

From kd5byb at kd5byb.net Tue Dec 24 10:19:47 2013

From: kd5byb at kd5byb.net (Ben Hall)

Date: Tue, 24 Dec 2013 09:19:47 -0600

Subject: [BoatAnchors] Adapters for Can Capacitors

In-Reply-To: <002801cf0034\$1589b740\$4301a8c0@KB6NAX>

References: <52B864D0.9090507@kd5byb.net>

<002801cf0034\$1589b740\$4301a8c0@KB6NAX>

Message-ID: <52B9A613.6080202@kd5byb.net>

Good morning Arden and all,

On 12/23/2013 4:38 PM, Arden Allen wrote:

> Ben, the Twist-Lok capacitor mounting tabs were never intended to make a
> good connection to chassis.

I want to say that I remember a discussion along those lines here on the list at some point in the last few months. I would have thought that any sort of "scraping" contact from the tabs would have been troublesome at best.

HP soldered one of the tabs on each cap to a riveted grounding point with bus wire to make a good (or maybe not so good!) ground.

thanks much and 73,
ben, kd5byb

From 1oldlens1 at ix.netcom.com Mon Dec 23 19:51:11 2013

From: 1oldlens1 at ix.netcom.com (Richard Knoppow)

Date: Mon, 23 Dec 2013 16:51:11 -0800 (GMT-08:00)

Subject: [BoatAnchors] Bubbles that won't scrub redux #2

Message-ID: <611156.1387846271277.JavaMail.root@mswamui-billy.atl.sa.earthlink.net>

-----Original Message-----

>From: Arden Allen <gumbear at pacbell.net>

>Sent: Dec 23, 2013 3:09 PM

>To: Arden Allen <gumbear at pacbell.net>, "Old Tube Radios (new)" <boatanchors at minime.theporch.com>

>Subject: Re: [BoatAnchors] Bubbles that won't scrub redux #2

>

>I last reported on my struggle to restore a Tektronix 503 that everywhere
>there was silver it was as black as night with tarnish. Not only were the
>rotary switches largely dysfunctional but three of the 20 ceramic trimmer
>capacitors that frequency compensate the vertical and horizontal attenuator
>steps failed open during adjustment. Apparently enough of the silver had
>been converted to tarnish that not enough was left to withstand the friction
>forces of rotor rotation.

>

>Somewhat reasonable function was restored to the rotary switches with
>copious application of contact cleaner/lube interspersed with straight 1,1,1
>trichlorethane. It was a long and repetitious exercise with only the
>satisfaction that I was headed in the right direction.

>

>While dealing with this torturous task I had plenty of time to entertain
>better alternatives by fancy. So at one pointed I retired to the keyboard
>and asked Google, in its worldly wisdom, what it would do. Sampling one ham
>radio forum (its URL now escapes me) the discussion of what to do about
>silver tarnish provided some intersting ideas. One was that methyl alcohol
>worked well enough. I thought, yes, alcohol can be corrosive on metals, so
>maybe it can produce favorable results. There were the often suggested use
>of various makes and models of pencil erasers. Those I discounted because
>of the lack of access to nested wafers and the potential for damage to the
>contacting fingers. A couple of posts sugested Tarn-X liquid silver tarnish
>remover. I read up on Tarn-X to find out that's its formula is mildly
>acidic. That was interesting because Simple Green is mildly alkaline so
>clean-up would involve neutralization of the acid and with Simple Green's
>excellent rinsability perhaps no negative effects would ensue from
>unremovable residues. That's pretty much the fanciful part of this little
>trek into the unkown.

>

>I dropped by my my local Ace the friendly helper place and bought a bottle
>of Tarn-X. Having a box full of various condition single phenolic wafer
>swithes with lots of postions I'm planning a pseudo-scientific experiment to
>see what I can learn. Comments invited before I make the plunge.

>

>Arden Allen

>KB6NAX

Most tarnish removers contain something to convert silver compounds back to

metallic silver or to dissolve them. Tarn-X contains thiourea AKA thiocarbamide. As I remember this dissolves silver compounds. Naval Jelly contains phosphoric acid another such chemical, and Zud or Barkeeper's Friend contains oxalic acid, yet another. One place I worked (a TV station) used Tarn-X to clean whole circuit boards, it worked pretty well. My only warning is that it must be cleaned off pretty thoroughly after use. The pH of the cleaners is mainly whatever is necessary to activate the ingredients. FWIW, most detergents are made alkaline. One test for pH, if its not extreme is how the solution feels to your fingers, acid will feel sticky, alkalies will feel slippery. The slippery feeling is from the alkali converting some of the fat in your skin to soap.

From gumbear at pacbell.net Tue Dec 24 16:08:49 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 24 Dec 2013 13:08:49 -0800
Subject: [BoatAnchors] Adapters for Can Capacitors
References: <52B864D0.9090507@kd5byb.net>
<002801cf0034\$1589b740\$4301a8c0@KB6NAX> <52B9A613.6080202@kd5byb.net>
Message-ID: <001c01cf00ec\$5b4bf460\$4301a8c0@KB6NAX>

>HP soldered one of the tabs on each cap to a riveted grounding point with bus wire to make a good (or maybe not so good!) ground.

I think HP had the right combination of chassis aluminum alloy and riveting method that made strong and reliable chassis ground lugs, better than riveting the capacitor saddle to the chassis alone where mechanical stressing of the junctions occurs.

Arden

From landn2 at frontier.com Wed Dec 25 02:25:37 2013
From: landn2 at frontier.com (Liles and Naomi Garcia)
Date: Tue, 24 Dec 2013 23:25:37 -0800
Subject: [BoatAnchors] Merry Christmas, Happy Holidays, and Happy New Year!!
Message-ID: <OBEDKFDGHEPDGADPPEHF0EMOEIAA.landn2@frontier.com>

Just a short note to wish you all a Merry Christmas, Happy Holidays, and a Happy New Year!!

Holiday project is resurrecting a National SW-45. The receiver is together; and since the power supplies are rare, I am building one for it. It won't be original, but it will let my SW-45 play again.

Best regards from Aloha, Oregon!!

Liles Garcia
landn2 at frontier.com

From whitebear1122 at comcast.net Fri Dec 27 16:13:34 2013
From: whitebear1122 at comcast.net (Whitebear1122)
Date: Fri, 27 Dec 2013 15:13:34 -0600
Subject: [BoatAnchors] Wand to Buy: Pair of IF Transformers from BC-454
and/or Miller 1730 IF Transformers
References: <3B3BE3B8-07D6-4718-ABDB-996A1AE6EB61@comcast.net>
Message-ID: <F6462A2D-37BF-4397-BD5B-9AC6069608C5@comcast.net>

>

> Hi, I'm looking to buy a set of IF transformers and plug in bases from a BC-454,
or a pair of Miller 1730s. 73, Scott WA9WFA

From pbrickey at verizon.net Mon Dec 30 18:10:01 2013
From: pbrickey at verizon.net (Peter Brickey)
Date: Mon, 30 Dec 2013 15:10:01 -0800
Subject: [BoatAnchors] HRO-60 continuing saga - the end
Message-ID: <00fe01cf05b4\$480dcd70\$d8296850\$@verizon.net>

Hi,

Well, while waiting for a replacement Xtal filter assembly and the 1990 IF can, which was provided by Al K0AL, I checked over the wiring and compared it to the schematic. Besides finding connections where a component had been removed and then tacked back in, while looking at the top of the radio I noticed two 680pf capacitors tucked into the main tuning capacitor each one ran from the stator of the (1st & 2nd) RF section to ground. I also found a 10pf ceramic capacitor between the plate of the 2nd mixer and the B+ lead to the crystal filter (junction of C-32 and R-14). Everything else looked Ok. I removed these mods, installed the replacement filter assembly, the 1990 IF can, inserted the F coil and applied power - AM broadcast stations came in loud and clear!

After an alignment the radio is working great, so I am a happy camper.

Wishing you all the best for 2014,
73's

Peter K6DGH

From gumbear at pacbell.net Mon Dec 30 19:37:04 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 30 Dec 2013 16:37:04 -0800
Subject: [BoatAnchors] Less is more
Message-ID: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>

The subject refers to another one of my bright(er) ideas. The problem: Contact cleaner and lube sprays that spray everything but the intended switch. Yup, I have a solution (no pun intended) to the problem. The trick is to fabricate a flow restrictor onto the end of the plastic tube that is supposed to deliver the nifty fluid to the right spot. First, flare the business end of the tube slightly. That can be done with a warming up soldering iron or a heat gun. If the end of the tube gets too hot the hole may close up so keep a fine needle handy to plunge into the tip while it is still soft. That modification keeps the flow restrictor from sliding off. Next, pull the cotton applicator off the end of a Q-tip (or swab stick under someone else's fancy trade name). It will take a pair of pliers to exert the necessary force but it can be done. If you have swab sticks with the lint free foam applicators that's better yet. Slide the applicator onto the end of the spray tube. Tightly tie the applicator to the tube with a few turns of fine thread. To apply the fluid to a switch rest the applicator tip on the upper portion of the intended switch wafer and pull the trigger. The switch will be doused the way it should be without spray going everywhere else.

Happy New Year folks. May your projects in the new year be smoke free and affordable.

73's and good cheer all around!

Arden Allen
KB6NAX

From oldradio at comcast.net Mon Dec 30 21:44:18 2013
From: oldradio at comcast.net (oldradio at comcast.net)
Date: Tue, 31 Dec 2013 02:44:18 +0000 (UTC)
Subject: [BoatAnchors] Wouff Hong for sale Scam
In-Reply-To:
<1897461751.224702.1388457804418.JavaMail.root@sz0213a.westchester.pa.mail.comcast.net>
Message-ID:
<1473134728.224713.1388457858087.JavaMail.root@sz0213a.westchester.pa.mail.comcast

.net>

Be careful if contacted to purchase a Wouff Hong worth \$900. (4-photos are provided and says it was his dads for 50 years, but strangely his dad was not a ham?) He requests moneygrams and other sorted non-standard payment methods. Payment information will only be given via telephone and the send to address won't be given until you agree to his terms.

He backed out when I requested his telephone number and matching address.

73, John Dilks, K2TQN

-.-

From arc5 at ix.netcom.com Mon Dec 30 21:54:16 2013
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 30 Dec 2013 20:54:16 -0600
Subject: [BoatAnchors] Less is more
In-Reply-To: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>
References: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>
Message-ID: <072E1B22147B49D2B2545DE8F3AA9105@CompaqSR5710F>

----- Original Message -----

From: "Arden Allen" <gumbear at pacbell.net>

>.... To apply the fluid to a switch rest the applicator
> tip on the upper prortion of the intended switch wafer and pull the
> trigger.
> The switch will be doused the way it should be without spray going
> everywhere else.

Brilliant! Gimme some Q-Tips..

From n7rk at cox.net Tue Dec 31 01:03:16 2013
From: n7rk at cox.net (David Hollander)
Date: Mon, 30 Dec 2013 23:03:16 -0700
Subject: [BoatAnchors] Wouff Hong for sale Scam
In-Reply-To: <82z71n01M03BXh3012zQqp>
References: <82z71n01M03BXh3012zQqp>
Message-ID: <52C25E24.1070009@cox.net>

Hi John - sounds like a scam however I do have a metal Wouff Hong from the 1938 ARRL Convention in Chicago.

Dave N7RK

--

Dave N7RK Boatanchors Home Page: <http://n7rk.com>
Phoenix, Arizona *DXCC Honor Roll* *WAZ#22 - 75 Meter SSB*

ex-XE2/N7RK, N7RK/ZB2, VK2ERK, ZM0AJN, WB6NRK, WN6IWX

Boatanchor and Antique Radio Collector

From gumbear at pacbell.net Tue Dec 31 03:01:57 2013

From: gumbear at pacbell.net (Arden Allen)

Date: Tue, 31 Dec 2013 00:01:57 -0800

Subject: [BoatAnchors] Less is more

References: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>

<CF5FE4B7-0B06-4D0A-8EEC-B0F2F958ACD6@aol.com>

Message-ID: <002c01cf05fe\$9663d1f0\$4301a8c0@KB6NAX>

Hi Dennis,

Think of the cotton wad at the end of the plastic spray tube as a wash cloth being wrung out over the switch wafer. The cotton that you pull off on one end of a swab stick will be all bunched up from getting pulled off but there's still a hollow middle that was surrounding the stick. Just poke the crunched up cotton with a tooth pick or whatever to open the hole up. Then it is ready to install on the tip of the plastic spray tube. The cotton ball may not survive long if used on one of those high powered sprayers, if that concerns you.

Arden

> Maybe I'm missing something here but the Q-Tip I have in my hand as I write this

has a solid shaft, not a hollow tube so inserting same into the flared end of the spray

applicator tube would only serve to block it off. Also, presuming the availability

of a Q-tip/swab with a hollow shaft do I remove the cotton from both ends? Or, is

the wad of fuzz on the output (far) end of the arrangement what keeps the juice from

flying all over the place?

From hurstjsj at gmail.com Tue Dec 31 12:01:44 2013
From: hurstjsj at gmail.com (John Hurst)
Date: Tue, 31 Dec 2013 09:01:44 -0800
Subject: [BoatAnchors] Less is more
In-Reply-To: <002c01cf05fe\$9663d1f0\$4301a8c0@KB6NAX>
References: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>
<CF5FE4B7-0B06-4D0A-8EEC-B0F2F958ACD6@aol.com>
<002c01cf05fe\$9663d1f0\$4301a8c0@KB6NAX>
Message-ID: <0e0401cf0649\$fc6524e0\$f52f6ea0\$@com>

I've found that a syringe with a 4 inch long needle is very effective for applying contact cleaner in hard to get places. McMaster Carr has a wide variety of both, I use a #7510A603 syringe with a #7610A44 (.050 x 4 inch) needle.

For pots and switches I mix full strength D100L Deoxit with denatured alcohol (roughly 1:10) in the syringe so the D100 goes a long way.

I also use a syringe for applying a WD-40 + oil mixture for lubricating hard to reach spots. It's much more precise than using the spray method.

73, John, KU6X

From gumbear at pacbell.net Tue Dec 31 15:18:58 2013
From: gumbear at pacbell.net (Arden Allen)
Date: Tue, 31 Dec 2013 12:18:58 -0800
Subject: [BoatAnchors] Less is more
References: <000901cf05c0\$71a87980\$4301a8c0@KB6NAX>
<CF5FE4B7-0B06-4D0A-8EEC-B0F2F958ACD6@aol.com>
<002c01cf05fe\$9663d1f0\$4301a8c0@KB6NAX> <0e0401cf0649\$fc6524e0\$f52f6ea0\$@com>
Message-ID: <001901cf0666\$a501e770\$4301a8c0@KB6NAX>

> I've found that a syringe with a 4 inch long needle is very effective for applying contact cleaner in hard to get places.

Hi John - I've used needle syringes also but there are two problems with them I like to avoid. The needle is metal and I like to avoid causing shorts when working a noisy switch while the equipment is powered. Also, the needle is hard and rigid and can damage contacts when I go spastic. Thanks.

Arden Allen

KB6NAX

Adopt a shelter dog,
save an innocent life,
and make a friend forever =:-)